Valley Water

FEBRUARY 2022
51st Annual Report
FY 2022–23

Protection and Augmentation of Water Supplies

Valley Water
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3614
www.valleywater.org

February 25, 2022

Dear Valley Water Stakeholder:

Once again, Santa Clara County residents and businesses find themselves in another historic drought, which could last several more years. While the water conservation efforts from the community are commendable in response to our Valley Water (Santa Clara Valley Water District) Board of Directors' call to reduce water use by 15% compared to 2019, it is crucial the collaborative conservation effort continues. Drastically reduced imported water supplies coupled with the unavailability of Anderson Reservoir, the county's largest local surface water supply source, is an immediate challenge for the region. As part of our proactive response, Valley Water purchased a significant amount of emergency water to import into the county last year. If the drought continues to worsen, we are prepared to make the same purchase to maintain the water supply reliability that the community expects.

Valley Water has released our 51st Annual Report* on the Protection and Augmentation of Water Supplies, which documents our efforts to ensure a reliable water supply to support a healthy life, environment and economy in Santa Clara County. The report presents the basis for the proposed maximum groundwater production charges for fiscal year (FY) 2022–23 and is available on ***valleywater.org***.

Given the current drought conditions, increased water rates are anticipated next year. Also, even though great strides have been made in the first phase of the Anderson Dam Seismic Retrofit Project, the project cost has increased to an estimated $1.2 billion to complete, largely driven by permitting agency requirements, previously unforeseen work and inflation. As a critical public safety project, it remains Valley Water's top priority as it will protect local communities from harm, in addition to Santa Clara County's water supply.

Valley Water is using all financial resources available to offset the expected rate impacts. This strategy includes drawing down cash reserves to help pay for emergency water purchases, and vigorously pursuing federal and state grant funding. Additionally, Valley Water is transferring property tax revenues previously earmarked for other uses, as a one-time measure to offset rate impacts in FY 2022–23.

While Valley Water continually strives to reduce costs, we acknowledge water rates must be able to pay for the costs to deliver the services the community relies upon.

If you have questions or concerns about groundwater, this year's charge-setting process, or how we can better serve you, please contact us at (408) 265-2600 or email at ***clerkoftheboard@valleywater.org***. You're also invited to join us at our upcoming scheduled public events (*listed on page iii*) to speak with staff directly. We look forward to receiving your feedback and thank you for your planned participation.

Sincerely,

Aaron Baker, P.E.
Chief Operating Officer
Water Utility Enterprise

*The Annual Report on the Protection and Augmentation of Water Supplies is published and filed prior to Valley Water holding public hearings on the groundwater production charges. On average, Valley Water actively replenishes two-thirds of the groundwater used by water retailers, residents, businesses, and farms in Santa Clara County.

With revenue from groundwater production charges, Valley Water protects and augments water supplies for the health, welfare, and safety of the community. The activities, programs and services undertaken with funding from groundwater production charges include:

Infrastructure
- Plan and construct improvements to infrastructure such as dams, pipelines, recharge ponds, drinking water and recycled water treatment plants, and pump stations.
- Operate and maintain dams, pipelines, recharge ponds, treatment plants and pumping stations to help sustain the groundwater basins.

Water supplies
- Operate and maintain local reservoirs to capture water and fill groundwater percolation ponds.
- Purchase imported water and develop local water supplies to replenish the groundwater basin.

Water quality
- Monitor and protect groundwater from pollutants.
- Ensure proper construction and destruction of wells to prevent contaminants from infiltrating the groundwater basin.

Valley Water completed a scientific study modifying its groundwater benefit zones, which was approved by the Valley Water Board of Directors in 2020. The North County groundwater benefit zone is Zone W-2, which approximately encompasses the urbanized area of the Santa Clara Subbasin. South County groundwater benefit zones include Zone W-5 in the Llagas Subbasin; Zone W-7, which encompasses the Coyote Valley; and Zone W-8 which encompasses areas in the foothills southeast of Uvas and Chesbro Reservoirs. More information on the groundwater benefit zones can be found online at ***valleywater.org/your-water/groundwater/groundwater-benefit-zones***.

The following represents the staff proposed maximum rate increases for groundwater benefit zones for FY 2022–23:

North County
- **Zone W-2, up to a 15% increase, or a $7.75 per month increase to the average household**

South County
- **Zone W-5, up to a 5.2% increase, or an $0.86 per month increase to the average household**
- **Zone W-7, up to a 10.3% increase, or a $1.86 per month increase to the average household**
- **Zone W-8, up to an 8% increase, or a $0.93 per month increase to the average household**

The staff proposed maximum rate increase for agricultural groundwater users in all zones is up to an 8% increase, or roughly a $0.45 increase per month per acre.

The following opportunities are also available for you to gather information and provide input on these important groundwater issues:

April 12, 2022

• 1:00 p.m. Valley Water Board of Directors Meeting *Time certain*	Public Hearing Opens Zoom and Teleconference Meeting ***https://valleywater.zoom.us/j/87195766689*** Meeting ID: 871 9576 6689 Dial-in: 1-669-900-9128

April 14, 2022

• 6:00 p.m.	Public Hearing & Open House Focused on South County Zoom and Teleconference Meeting ***https://valleywater.zoom.us/j/89280796163*** Meeting ID: 892 8079 6163 Dial-in: 1-669-900-9128
• 7:00 p.m.	Zoom and Teleconference Meeting ***https://valleywater.zoom.us/j/87195766689*** Meeting ID: 871 9576 6689 Dial-in: 1-669-900-9128

April 26, 2022

• 6:00 p.m. Valley Water Board of Directors Meeting *Time certain*	Public Hearing Concludes Zoom and Teleconference Meeting ***https://valleywater.zoom.us/j/87195766689*** Meeting ID: 871 9576 6689 Dial-in: 1-669-900-9128

51st Annual Report
Protection and Augumentation of Water Supplies
2022–2023

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Miguel Silva
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Xiaoyong Zhan

DISCLAIMER

The water utility financial forecast set forth herein was required to be prepared by California statutes for rate setting and other purposes and was not prepared to comply with the District's continuing disclosure or other federal securities law disclosure obligations. The forecast represents the estimate of projected financial results of certain funds of the District related to the District's water utility and is based upon the District's judgment of the most probable occurrence of certain future events at the time this forecast is published. Such projected financial forecast is based on a variety of assumptions which are material in the development thereof, and variations in the assumptions may produce substantially different forecast results. Actual operating results achieved during the projection period may vary from those presented in the forecast and such variations may be material. Revenues, operating outlays and other amounts set forth above (i) are presented on a budgetary basis which is not consistent with generally accepted accounting principles in all respects, and (ii) may not be presented consistent with the requirements of other statutes, regulations or contractual obligations applicable to or entered into by the District, including but not limited to bonds, notes or other obligations issued by or on behalf of the District and payable from the Water Enterprise Fund and the State Water Project Fund. The Senior and Parity Debt Service Coverage calculation included herein is prepared for general reference and may not conform to the debt service coverage calculation formulas pursuant to the Water Utility Senior or Parity Master Resolutions or other calculations applicable to the Water Enterprise Fund and the State Water Project Fund individually. Investors or potential investors considering the purchase or sale of District bonds, notes or other obligations are referred to information filed by the District on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures, maintained on the World Wide Web at ***https://emma.msrb.org/***.

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EXECUTIVE SUMMARY

This is the 51st annual report on Valley Water's (Santa Clara Valley Water District) activities in the protection and augmentation of water supplies. This report is prepared in accordance with the requirements of the District Act, section 26.5.

In calendar year 2021, Valley Water's conjunctive management program supplied the county with 165,000 acre-feet of water supply, relative to total water use of 296,000 acre-feet. Imported water supply allocations were low at 5% for State Water Project (SWP) water and 25%, plus adjustments for Public Health and Safety, for Municipal and Industrial Central Valley Project (CVP) water due to critically dry conditions. Banked water at Semitropic Water Storage District decreased to an estimated 297,000 acre-feet out of a total capacity of 350,000 acre-feet. Total storage in Valley Water reservoirs as of February 1, 2022 was 55 percent of the 20-year average and 26 percent of capacity, or about 46,894 acre-feet. Groundwater storage decreased in 2021 by about 30,300 acre-feet to an estimated 308,500 acre-feet, still in the healthy range. Despite drought conditions, the healthy 2021 groundwater reserves can be attributed to continued water use reduction by the community and Valley Water's conjunctive management practices. See Section 1, "Current Water Demand and Water Supply Conditions" for more details.

Valley Water estimates the increases in population and jobs will result in an increase in water demands from a current annual average of about 310,000 acre-feet to about 342,000 acre-feet in 2045. According to Valley Water's Water Supply Master Plan 2040 and the associated Monitoring and Assessment Program (MAP), water supplies appear to be sufficient to meet future water demand by investing in the maintenance of existing supplies and infrastructure, as well as a diverse suite of cost-effective projects including potable reuse, stormwater capture, and conservation. Valley Water is also considering other Water Supply Master Plan projects to help optimize the system and protect against other uncertainties and water supply risks, including the Transfer Bethany Pipeline portion of the Los Vaqueros Reservoir Expansion Project, the planned Pacheco Reservoir Expansion, and the Delta Conveyance Project. The MAP will continue to provide a mechanism for adapting to changing supply and demand conditions.

Pacheco reservoir

See Section 2, "Future Water Demand and Water Supply Availability" for more details.

Maintaining existing assets provides the foundation for meeting current and future supply needs. The Anderson Dam seismic retrofit, the Rinconada Water Treatment Plant reliability improvements, and other aging infrastructure renewal projects like the 10-Year Pipeline Rehabilitation Program comprise a large part of the proposed FY 23–27 capital improvement program. Section 3, "Programs to Sustain Water Supply Availability" further elaborates on the long-term investment strategy, which is composed of seismic retrofit, recycled/purified water, surface water storage expansion, and asset renewal and improvement projects. The existing agreement with the Cities of Palo Alto and Mountain View is a key component of a strategy to develop a purified water program which would produce between 9,000 and 12,000 acre-feet of new water supply for the county.

Staff developed a groundwater charge projection for the next 10 years based on Board input during the January 2022 Valley Water Board of Directors meetings. While Valley Water continually strives for cost reductions and

better utilization of the public's assets, it is imperative to align water charges with the costs to deliver the services the community relies upon. An increase in the groundwater charge projection in North County Zone W-2 is recommended. The increase is driven by multiple factors: 1) the need to purchase emergency imported water given the current drought conditions; 2) to advance the Anderson Dam Seismic Retrofit, which will improve public safety and restore operational capacity; 3) to fund key baseline projects including the Rinconada WTP reliability improvement and 10-year pipeline rehabilitation program; 4) to advance the Pacheco Reservoir Expansion, which would provide additional water storage capacity; and 5) to pay for general inflation impacting the nation.

For South County Zones (W-5, W-7, and W-8), an increase in the groundwater charge projection for FY 2022–23 is also recommended. Key drivers include: 1) the need to purchase emergency imported water given the current drought conditions; 2) to advance the Anderson Dam Seismic Retrofit, which will improve public safety and restore operational capacity; 3) to fund recycled water pipeline expansion, which would help preserve potable water supplies; 4) to advance the Pacheco Reservoir Expansion, which would provide additional water storage capacity; and 5) to pay for general inflation impacting the nation.

Section 4 provides details on the financial analysis of the Water Utility, including future capital improvement and maintenance requirements, operating requirements, financing methods and the proposed groundwater production and other water charges by zone for Fiscal Year 2022–23.

The North County groundwater benefit zone is Zone W-2, which approximately encompasses the urbanized area of the Santa Clara Subbasin. South County groundwater benefit zones include Zone W-5 over the Llagas Subbasin; Zone W-7, which encompasses the Coyote Valley; and Zone W-8 which encompasses areas in the foothills southeast of Uvas and Chesbro Reservoirs. See Appendix E for further details.

For Zone W-2 in the North County, staff proposes an increase of up to 15 percent for the Municipal and Industrial (M&I) groundwater charge for FY 2022–23. Staff proposes maintaining the contract treated water surcharge at $115 per acre-foot in alignment with the cost that retailers would incur to pump water from their wells. Based on information gathered from retailers, staff believes that this price remains close to the point of neutrality where a retailer would be indifferent in the short term as to whether to pump water from the ground or take treated water. The staff recommended groundwater charge for FY 2022–23 for Zone W-5 is an increase of up to 5.2 percent from the prior year. For Zone W-7 staff is proposing an increase of up to 10.3 percent from the prior year, and for Zone W-8 staff is proposing an increase of up to 8 percent from the prior year.

For agricultural groundwater users, staff proposes an increase of up to 8 percent from the prior year, which equates to setting the agricultural groundwater charge at 10 percent of the lowest M&I rate (Zone W-8), consistent with Board direction from 2021.

Staff proposed rate changes for surface water users are a function of the groundwater charge in each zone. The staff recommended charges are necessary to cover the cost of emergency water purchases, water treatment plant upgrades, recycled water system expansion and critical capital program needs, including dam seismic retrofits.

The staff recommended charges for FY2022–23 are shown in the right-hand column of the chart on the next page.

Calero Reservoir

SUMMARY OF GROUNDWATER PRODUCTION AND OTHER WATER CHARGES

		Dollars Per Acre Foot		
	Basic User/Groundwater Production Charge	**FY 2020–21**	**FY 2021–22**	**Proposed Maximum FY 2022–23**
Zone W-2 (North County)	Municipal and Industrial	1,374.00	1,499.00	1,724.00
	Agricultural	28.86	34.15	36.85
	Surface Water Charge			
	Surface Water Master Charge	37.50	40.90	47.10
	Total Surface Water, Municipal and Industrial*	1,411.50	1,539.90	1,771.10
	Total Surface Water, Agricultural*	66.36	75.05	83.95
	Treated Water Charges			
	Contract Surcharge	100.00	115.00	115.00
	Total Treated Water Contract Charge**	1,474.00	1,614.00	1,839.00
	Non-Contract Surcharge	200.00	200.00	200.00
	Total Treated Water Non-Contract Charge***	1,574.00	1,699.00	1,924.00
Zone W-5 (Llagas Subbasin)	**Basic User/Groundwater Production Charge**			
	Municipal and Industrial	467.00	488.00	513.00
	Agricultural	28.86	34.15	36.85
	Surface Water Charge			
	Surface Water Master Charge	37.50	40.90	47.10
	Total Surface Water, Municipal and Industrial*	504.50	528.90	560.10
	Total Surface Water, Agricultural*	66.36	75.05	83.95
	Recycled Water Charges			
	Municipal and Industrial	447.00	468.00	493.00
	Agricultural	56.26	61.55	64.25
Zone W-7 (Coyote Valley)	**Basic User/Groundwater Production Charge**			
	Municipal and Industrial	481.00	528.50	582.50
	Agricultural	28.86	34.15	36.85
	Surface Water Charge			
	Surface Water Master Charge	37.50	40.90	47.10
	Total Surface Water, Municipal and Industrial*	518.50	569.40	629.60
	Total Surface Water, Agricultural*	66.36	75.05	83.95
Zone W-8 (Uvas/Chesbro)	**Basic User/Groundwater Production Charge**			
	Municipal and Industrial	327.00	341.50	368.50
	Agricultural	28.86	34.15	36.85
	Surface Water Charge			
	Surface Water Master Charge	37.50	40.90	47.10
	Total Surface Water, Municipal and Industrial*	364.50	382.40	415.60
	Total Surface Water, Agricultural*	66.36	75.05	83.95

*Note: The total surface water charge is the sum of the basic user charge (which equals the groundwater production charge) plus the water master charge
**Note: The total treated water contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the contract surcharge
***Note: The total treated water non-contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the non-contract surcharge

BACKGROUND AND HISTORY

The Valley Water (Santa Clara Valley Water District) is a special district originally formed in 1929. Valley Water is authorized to supply water and provide flood protection services in Santa Clara County, California which includes 15 incorporated cities/towns (Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale).

Valley Water seeks to provide water supply of adequate quantity and quality to meet the desired quality of life in the community. To fulfill this mission, Valley Water imports water into the county, manages two groundwater subbasins, and owns and operates three water treatment plants, an advanced water purification center, a state-of-the-art water quality laboratory, ten reservoirs, three pumping stations, a hydroelectric plant, numerous recharge facilities in seven major recharge systems, and related distribution facilities. Valley Water is authorized to import, store, treat and distribute water within its jurisdictional boundaries to provide water in sufficient quantity and quality for present and future beneficial use.

Valley Water wholesales drinking water to water retailers and protects and augments groundwater for the benefit of multiple water retailers, mutual water companies and thousands of private well owners that pump groundwater. Water retailers then deliver water to the consumers in the county. Valley Water receives revenue from groundwater charges for water pumped from areas receiving benefit from Valley Water groundwater management activities, in addition to revenue from the sale of treated water, nonpotable surface water and recycled water.

What do Groundwater Production Charges pay for?

What you get

Benefits

- Reliable, healthy and clean drinking water
- Diverse water supply sources
- Protected and sustained water resources
- Maximized water conservation and recycling
- Reduced risk of subsidence through sustainable groundwater management

What we do

Replenish the groundwater basin

- Operate and maintain local reservoirs to capture water and fill recharge ponds.
- Purchase imported water.
- Provide treated drinking water to offset groundwater pumping (in-lieu recharge).

Ensure safe drinking water

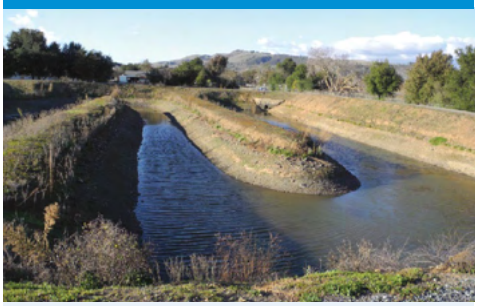
- Monitor and protect groundwater from pollutants.
- Ensure proper construction and destruction of wells.

Construct, maintain and repair

- Plan and construct improvements to infrastructure such as dams, pipelines, ponds, treatment plants and pump stations.
- Operate and maintain pipelines and pumping plants to help sustain the groundwater aquifer.

Los Alamitos Percolation Pond

Local water



A complex network of reservoirs, creeks and specialized ponds replenishes the groundwater basin. The same system is also used to transport imported water so that it, too, can be used to replenish the aquifer. It all works so well that managed recharge actually exceeds natural recharge in nearly all years.

Water pumped from the groundwater basin through wells is used by private well owners, farmers and water retailers. Some water captured in reservoirs is processed at state-of-the art drinking water treatment plants. The treated water is sold to local water retailers, such as San Jose Water Company, who uses their own distribution systems to serve customers.

Imported water

Much of the county's current water supply comes from hundreds of miles away, first as snow or rain in the Sierra Nevada range of northern and eastern California, then as water in rivers that flow toward the Sacramento-San Joaquin River Delta. This imported water is brought into the county through the complex infrastructure of the State Water Project, the federal Central Valley Project and San Francisco's Hetch Hetchy system. Three drinking water treatment plants deliver imported water to customers, while the rest is used to replenish groundwater basins.

Having treated imported water available to meet demands protects the groundwater basin from over pumping.

Recycled/Purified water

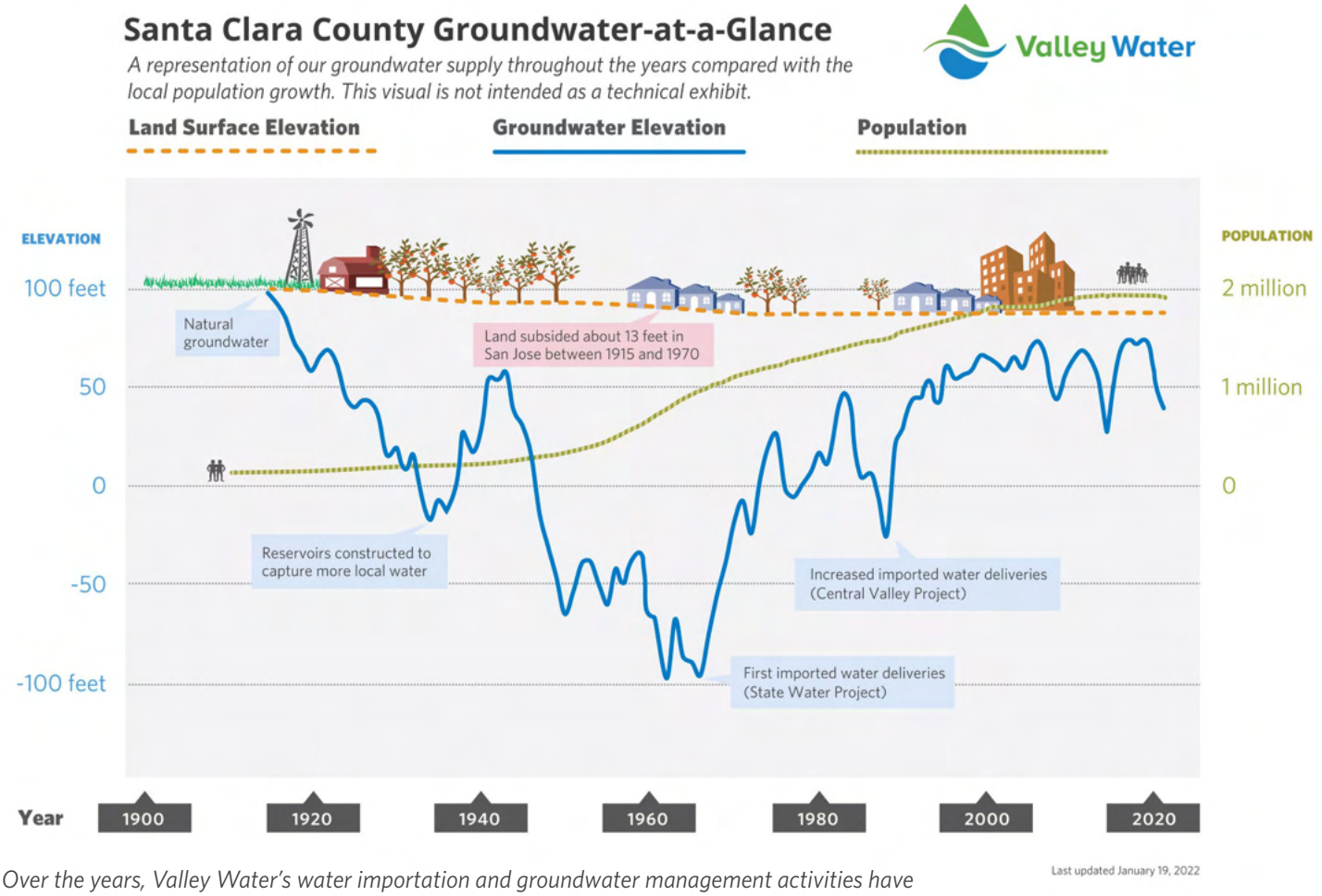
An important and growing source of water is recycled and purified water. Used primarily for irrigation by industry and agriculture, recycled water is wastewater that has been treated to meet strict standards set by the State Water Resources Control Board.

Using recycled water helps conserve drinking water supplies and provides a drought-resilient water supply, while reducing dependency on imported water and groundwater. Additionally, there are environmental benefits of helping to preserve our saltwater and tidal habitat by reducing freshwater discharge to the San Francisco Bay in the north county. Recycled water also minimizes treated wastewater discharge to the Pajaro River at certain times in the south county.

Local water supplies make up the foundation of water supply in Santa Clara County, but need to be augmented to reliably meet the demands of the county. Imported water supplies, and of increasing importance, recycled and purified water supplies, are key to Valley Water's conjunctive management efforts to help maintain a reliable water supply.

Previous generations invested in the water system, and it's now our turn to invest for our children and their children. Smart investments will decrease the magnitude of critical shortages in water supplies due to hydrologic conditions, regulatory actions and climate change impacts such as severe droughts.

Almaden Reservoir



Over the years, Valley Water's water importation and groundwater management activities have stabilized groundwater levels and prevented land subsidence, or sinking.

Valley Water's water importation and groundwater management activities halted land subsidence or sinking around 1970 and resulted in groundwater level recovery. These activities remain essential in preventing subsidence and ensuring sustainable groundwater supplies.

Without Valley Water's conjunctive management programs (including managed and in-lieu recharge), groundwater levels would be considerably lower than they are today, reducing water supply reliability and increasing the risks of renewed land subsidence and saltwater intrusion.

Main Avenue Pond

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1-1 WATER SUPPLY OVERVIEW

The mission of the Santa Clara Valley Water District (Valley Water) is to provide Silicon Valley safe, clean water for a healthy life, environment and economy. Accordingly, Valley Water employs an integrated approach to manage a sustainable water supply through conjunctive management and use of surface water and groundwater resources to maximize water use efficiency.

Water supply is comprised of "incoming" supplies from local and imported sources, as well as previously stored supplies, referred to as carryover, withdrawn from in-county and/or out-of-county surface water and groundwater storage.

Local Supplies

Local groundwater resources make up the foundation of water supply in Santa Clara County, but they need to be augmented by Valley Water's comprehensive water supply management activities to reliably meet the needs of county residents, businesses, agriculture, and the environment. These activities include direct managed recharge as well as the provision of treated and untreated surface water, acquisition of supplemental water supplies, water conservation and recycling, and programs to protect, manage and sustain water resources, collectively referred to as in-lieu groundwater recharge. These activities are considered "in-lieu" recharge since they have the same beneficial effect on groundwater supplies as direct replenishment.

Runoff from precipitation constitutes the bulk of the local water supplies and is captured in local reservoirs. The water is released for groundwater recharge, in-stream environmental/ecological purposes (maintain fish and wildlife habitat), local surface water customers, and treatment at the treatment plants. Some of the precipitation infiltrates and recharges the groundwater basins, although this natural recharge is insufficient to fully replenish groundwater pumped from the basins.

An additional local water supply is recycled water used for non-potable purposes. Use of recycled water offsets demand for potable water. Every gallon of recycled water used in this county saves an equal gallon of groundwater or treated drinking water.

Imported Supplies

Valley Water's imported sources of supply originate from natural runoff and releases from statewide reservoirs and are pumped out of the Sacramento-San Joaquin Delta (Delta) by the State Water Project (SWP) and the federal Central Valley Project (CVP). Valley Water holds contracts with the State government for up to 100,000 acre-feet of supply from the SWP and the Federal government for up to 152,500 acre-feet of supply from the CVP, per year. Actual deliveries depend on the

availability of water supplies after meeting regulations to protect the environment and Delta water quality. The imported water delivered by the SWP and CVP is sent to Valley Water's three water treatment plants, used to supplement groundwater recharge, or stored in local and State reservoirs for use in subsequent years. Valley Water also stores some of its imported water in the Semitropic Groundwater Bank in Kern County for withdrawal during dry periods. Treated imported water is sold to seven of the 13 water retailers located within Santa Clara County to offset groundwater pumping. Valley Water may also augment its imported supplies by taking deliveries of available temporary flood flows from the Delta watershed early in the year before imported water contract allocations and local hydrology are known. If water supplies are insufficient to meet needs, Valley Water may also purchase transfer water or participate in exchanges to supplement supplies; both transfer and exchange supplies are conveyed to Santa Clara County through the Delta. Additionally, eight water retailers purchase water from the City and County of San Francisco that originates from the Tuolumne River watershed and watersheds in the Bay Area. Without all these supplemental supplies, groundwater pumping would exceed sustainable groundwater extraction levels.

Conjunctive Water Management

Since the 1930s, Valley Water's water supply strategy has been to coordinate the management and use of surface water and groundwater to maximize water supply reliability, which is known as conjunctive management. The Sustainable Groundwater Management Act (SGMA) was signed into State law in September 2014, with the intent of promoting the local, sustainable management of groundwater supplies. SGMA identifies Valley Water as one of fifteen exclusive groundwater management agencies within their jurisdictions. In May 2016, Valley Water's Board of Directors (Board) adopted a resolution to become the Groundwater Sustainability Agency for the Santa Clara and Llagas subbasins. In November 2016, the Board adopted the 2016 Groundwater Management Plan (GWMP), which describes Valley Water's conjunctive management activities, as well as groundwater sustainability goals, strategies, and related outcome measures. The 2016 GWMP was approved by the California Department of Water Resources (DWR) in 2019 as an alternative to a Groundwater Sustainability Plan (GSP), in compliance with SGMA. Since March 2018, Valley Water has submitted an annual compliance report to DWR as required by SGMA. In November 2021, the Board adopted the 2021 GWMP as the first required five-year update to the approved Alternative Plan. Valley Water will continue to sustainably manage the Santa Clara and Llagas subbasins according to the District Act and will fully comply with SGMA.

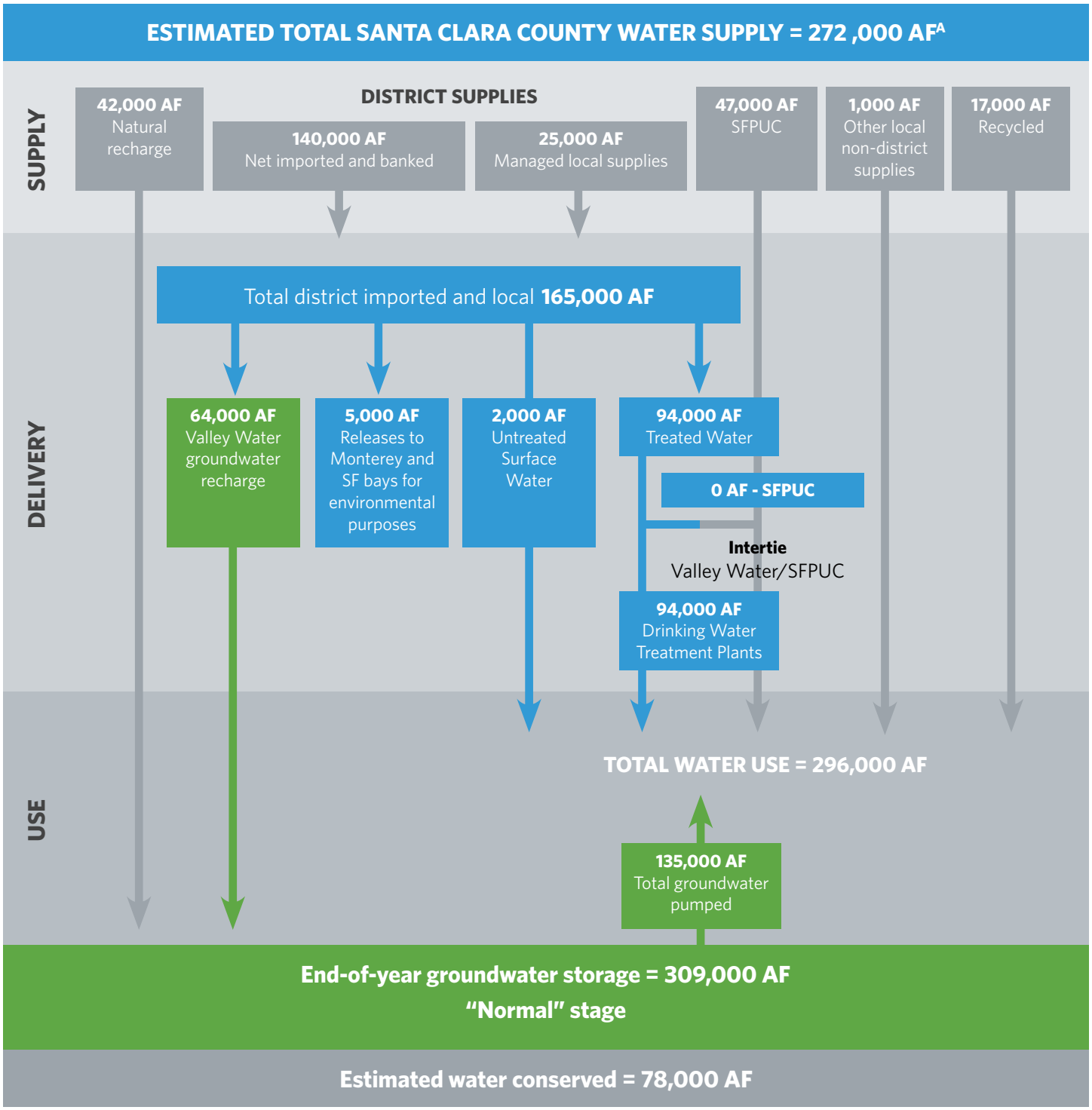
A key Valley Water conjunctive management effort involves using imported and local surface water to recharge the groundwater subbasins. Valley Water also provides treated and raw surface water to customers, which offsets demands on the groundwater subbasins. Water conservation and recycled water use offset demands on both surface water and groundwater. All these activities help maintain a reliable water supply.

Figure 1-1.1 shows Calendar Year 2021 estimated total water supply for Santa Clara County. Valley Water managed recharge programs replenished the groundwater basins with about 64,000 acre-feet of local and imported surface water. The largest source of in-lieu recharge was the distribution

of treated water (94,000 acre-feet). Valley Water saved an estimated 78,000 acre-feet of water through programs designed to reduce residential, commercial, and agricultural water use and make conservation a way of life in the county. A smaller, but important and growing source of in-lieu recharge is recycled water, which provided about 17,000 acre-feet of water for irrigation, industry, and agriculture in 2021. Using recycled water reduces dependency on groundwater and surface water, helps conserve drinking water supplies, and provides a locally controlled, drought-resilient supply. Valley Water is partnering with local recycled water producers to further expand the use of recycled water.

Figure 1-1.1 Estimated Total Santa Clara County Water Supply for Calendar Year 2021

Calendar Year 2021



A County Water Supply includes net district and non-district surface water supplies and estimated rainfall recharge to groundwater basins.

B Natural recharge – Groundwater recharge not controlled by Valley Water, including rainfall and other natural seepage, irrigation return flows, and leakage from water systems, storm drains, and sewer/septic systems.

C Net imported supplies – Surface water imported from the Sacramento-San Joaquin Delta that is used to replenish groundwater or to supply water treatment plants and surface water users in Santa Clara County. This excludes water transferred into the Semitropic Water Bank in Kern County and imported water stored (i.e., carried over) for future use.

D Managed local supplies – Watershed rainfall/runoff captured in local reservoirs or previously stored local water that is used to replenish groundwater or to supply water treatment plants and surface water users in Santa Clara County. This excludes estimated evaporation and local supplies stored for future use.

E Includes municipal, industrial, agricultural and domestic uses.

Current Water Demand and Water Supply Conditions

Without Valley Water's conjunctive management programs (including managed and in-lieu recharge), groundwater levels would be considerably lower than they are today, reducing water supply reliability and increasing the risks of renewed land subsidence (sinking) and seawater intrusion. Water supplies are becoming increasingly constrained by challenges including uncertainty in surface water supplies, extended droughts, and climate change. Maintaining Valley Water's conjunctive management programs and expanding them as needed is critical to making the best use of local water resources and ensuring a reliable water supply both now and in the future.

A limiting factor to a reliable water supply during drought or other shortages is the capacity and operational constraints of Valley Water's conjunctive management system of groundwater and surface-water reservoirs. The groundwater basins are Valley Water's largest water storage facility. However, most of the local surface-water reservoirs were sized for annual operations, storing water in winter for release to groundwater recharge in summer and fall. The exception is the Anderson-Coyote reservoir system, which historically provided valuable carryover of supplies from year to year and served as a backup supply source to Valley Water's water treatment plants when imported water deliveries are curtailed. However, Anderson Reservoir, the largest reservoir in the county, will not be available for backup supply until seismic retrofit activities have been completed, which is estimated to be the end of 2032. Calero Reservoir also serves as a backup supply to the drinking water treatment plants with dedicated storage preserved for emergency use; however, due to the seismic restriction placed on Calero Reservoir, its emergency pool is limited to 4,000 AF and is much smaller than Anderson's emergency pool of 20,000 AF. Dam safety operating restrictions placed on Anderson, Coyote, Almaden, Calero and Guadalupe reservoirs have resulted in loss of close to 103,500 AF or nearly two-thirds of the total surface storage capacity (as shown in Table 1-1.1) as well as significant loss of water supply yield.

Table 1-1.1 Current and Restricted Capacities of Major Valley Water Reservoirs

Reservoir	Year Built	Reservoir Capacity[3] (acre-feet)	Restricted Capacity[3] (acre- feet)	Primary Use
Almaden[1]	1935	1,555	1,443	Groundwater recharge, treated for drinking water
Anderson[1,2]	1950	89,278	3,050	Groundwater recharge, treated for drinking water
Calero[1]	1935	9,738	4,414	Groundwater recharge, treated for drinking water
Chesbro	1955	7,967	7,967	Groundwater recharge
Coyote[1]	1936	22,541	11,843	Groundwater recharge, treated for drinking water
Guadalupe[1]	1935	3,320	2,134	Groundwater recharge
Lexington	1952	18,534	18,534	Groundwater recharge
Stevens Creek	1935	3,056	3,056	Groundwater recharge
Uvas	1957	9,688	9,688	Groundwater recharge
Vasona	1935	463	463	Groundwater recharge
Total		**166,140**	**62,592**	

[1] Reservoirs with dam safety operating restrictions
[2] Per Federal Energy Regulatory Commission (FERC) Order, the capacity of Anderson Reservoir was restricted to Elevation 488 feet (NAVD 88) or deadpool storage, as of October 1, 2020. Based on storage data and field observations, Anderson Reservoir deadpool storage is estimated at about 3,050 AF.
[3] Reservoir and restricted capacities were updated in FY 2018–19, FY 2019–20, and FY 2020–21 to reflect most recent surveying results.

As part of annual operations planning, Valley Water routinely opts to carry over a portion of imported water supplies for future years. Even though the amount is often limited by state or federal project operations, it provides cost-effective insurance against a subsequent dry year. Additionally, Valley Water has invested in a water banking program at the Semitropic Water Storage District which provides up to 350,000 acre-feet of out-of-county water storage capacity. Together with water transfers and exchanges, this additional storage helps Valley Water manage uncertainty and variability in supply as each water year[1] develops. Managing a complex system of surface water and groundwater resources is further complicated by hydrologic uncertainties, regulatory restrictions, and aging infrastructure, as discussed in the following sections of this report.

[1] Water year is the twelve-month period between October 1 and September 30.

1-2 CURRENT WATER SUPPLY CONDITIONS

Precipitation

Locally, rainfall for the 2020–21 season at downtown San José was at 41 percent of average[2]. Total rainfall from July 2020 through June 2021 resulted in a below average rainfall season, based on data going back to 1874.

The 2021–22[3] rainfall year began with an above average December. Cumulative rainfall at the San José gauge from July 1, 2021, through December 31, 2021, was estimated to be 7.64 inches. Rainfall at the San José gauge in January 2022 totaled 0.00 inches, which is below average for that month. Cumulative local rainfall as of February 1, 2022, was 99 percent of seasonal average to date in San José and 108 percent in the Coyote watershed.

Statewide precipitation by February 1, 2022, was at 97 percent of seasonal average to date. As of February 1, 2022, statewide snow water equivalent was 15.9 inches and 92 percent of normal for that date.

Imported Water Allocations

Valley Water's SWP contract provides annual allocations of SWP supplies, and Valley Water's CVP contract provides allocations of both agricultural and Municipal and Industrial (M&I) supplies. The quantity of supply allocated depends on availability of those supplies after meeting regulations to protect the environment and Delta water quality.

Water year 2020-2021 was one of the driest years in California on record. The SWP allocation for 2021 was initially set at 10 percent in December 2020 and decreased to a final allocation of 5 percent in March 2021. The CVP agricultural allocation for water contractors was initially set to 5 percent and the CVP M&I allocation to 55 percent; the agricultural allocation was suspended in March and ultimately reduced to zero in May 2021, when CVP M&I Allocation was reduced to 25 percent or Public Health and Safety needs. Valley Water requested and was allocated additional CVP M&I water to meet its Public Health and Safety needs. Table 1-2.1 summarizes the year types and final allocations from the SWP and CVP to Valley Water for the last five years.

The early winter of 2021-2022 began with wetter than average hydrology; however, with the water year beginning with reservoirs at or near historic lows across the state, initial allocations are expected to be low. In December 2021, the Department of Water Resources (DWR) set the initial SWP allocation for 2022 to meet a contractor's human health and safety needs only. On January 20, 2022, DWR updated the overall SWP allocation to 15 percent but may still provide adjustments for human health and safety. The Bureau of Reclamation (Reclamation) has yet to set its initial CVP allocations for 2022.

[2] Rainfall at San José (City of San José gauge 6131) was approximately 5.79 inches or 41 percent of average for the rainfall season from July 1, 2020 to June 30, 2021.

[3] Precipitation data for rainfall year 2021-22 is provisional until verified by staff in Spring of 2022.

Table 1-2.1 Statewide Water Year Types and Final Imported Water Allocations

Water Year	Year Type		Final allocations to Valley Water as % of contract amounts		
	Sacramento River	San Joaquin River	SWP	CVP	
				M&I	AG
2016-17	Wet	Wet	85%	100%	100%
2017-18	Below Normal	Below Normal	35%	75%	50%
2018-19	Wet	Wet	75%	100%	75%
2019-20	Dry	Dry	20%	70%	20%
2020-21	Critical	Critical	5%	25%*	0%

*Valley Water received additional water supply from the CVP to meet Public Health and Safety needs in the County.

Water Banking

To provide reliability in future years, Valley Water stores some of its imported water in groundwater storage outside of the county. This involves conveyance of Valley Water state and/or federal water supplies to a banking partner, another district that operates a groundwater conjunctive use program. Storage in the bank occurs when water is physically delivered to ponds to soak into the aquifer, or when surface water deliveries are used by the banking partner in lieu of groundwater pumping ("in-lieu recharge"). Return of stored water is accomplished when the banking partner uses groundwater in place of surface supplies, or physically pumps groundwater into the surface conveyance system for use by the Department of Water Resources for the SWP. Valley Water is then delivered imported water pumped from the Delta that would have otherwise been delivered to the banking partner or to other SWP contractors. Valley Water currently banks SWP and CVP water at the Semitropic Water Storage District in Kern County, where it has a contractual right to store up to 350,000 acre-feet of water. Table 1-2.2 shows the annual changes and year-end balances for banked water during calendar years 2019 and 2020, and the estimated activity for 2021.

Table 1-2.2 Water Banking for Calendar Years 2019 through 2021 (Acre-Feet)

Water Banking	Actual 2019	Actual 2020	Estimated 2021*
Semitropic Water Storage District			
Beginning Balance (January 1)	292,730	349,970	333,170
Valley Water Deposit or Withdrawal	+57,240	-16,800	-35,959
Total Banked Ending Balance (December 31)	**349,970**	**333,170**	**297,211**

** 2021 deposit quantity from Semitropic being finalized*

Valley Water has contractual rights to deliver or "put" up to 31,675 acre-feet of water into the Semitropic groundwater bank each year. Valley Water is often able to deliver additional water by using the unused "put" capacity of other agencies participating in the Semitropic groundwater bank. The maximum amount of water Valley Water delivered to Semitropic for storage in a single year was 89,022 acre-feet in 2005. Valley Water also has a contractual right to withdraw or "take" up to 31,500 acre-feet of water out of storage each year. The maximum amount of water that Valley Water can withdraw in any given year is dependent upon the SWP allocation and if the other bank participants have not made full use of their "take" capacity. The higher the SWP water supply allocation, the greater the "take" capacity. The largest amount of water previously withdrawn by Valley Water in a single year was 45,485 acre-feet in 2015. An estimated 35,959 acre-feet was withdrawn from Semitropic in 2021.

Reservoir Storage

Reservoir storage volumes in Lake Oroville, Shasta Lake, and Folsom Lake at the beginning of calendar year 2021 were 67, 76 and 73 percent of historic average beginning-of-year volumes, respectively. By the end of December 2021, those levels had increased to 73 and 147 percent of average in Lake Oroville and Folsom Lake while Shasta Lake decreased to 50 percent of average. By February 1, 2022, the levels were at 80, 55 and 119 percent in Lake Oroville, Shasta Lake, and Folsom Lake, respectively.

Locally, the 2021-22 water year started with Valley Water reservoirs at fairly low levels. October 1, 2021 total storage in these reservoirs was 26 percent of the 20-year average and 12 percent of capacity at the spillway crest.

Total storage in Valley Water reservoirs as of February 1, 2022 was 55 percent of the 20-year average and 26 percent of capacity. Storage restrictions are in place for half of Valley Water reservoirs. The combined storage in Valley Water reservoirs as of February 1, 2022 was at 70 percent of restricted capacity.

One of Valley Water's reservoirs, Anderson Reservoir, has undergone a series of storage restrictions in 2009, 2010, 2011, and 2017 by the Department of Water Resources, Division of Safety of Dams (DSOD). The May 2017 interim reservoir operating restriction by DSOD set Anderson Reservoir at the recommended elevation of 589.5 feet (NGVD 1929), which translates to a storage of 51,766 AF. On October 10, 2017, the Board directed staff to operate the Anderson Reservoir system following the 40 percent exceedance rule curve to reduce the chances of exceeding the seismic restriction of the reservoir.

On February 20, 2020, the Federal Energy Regulatory Commission (FERC) issued an order that, as of October 1, 2020, Anderson Reservoir must begin to be safely drawn down to elevation 488 feet (NAVD 88[4]), corresponding to deadpool. Valley Water has complied with the order and Anderson

[4] 488 feet in the NAVD 88 datum corresponds to about 485.2 feet in the NGVD 29 datum.

Reservoir was at deadpool in mid-December 2020. Additionally, per the FERC order, Anderson Reservoir must be safely maintained at deadpool through completion of the Anderson Dam Tunnel Project (ADTP), a new, low-level outlet tunnel works that will allow Valley Water to more reliably and quickly draw down the reservoir, until directed otherwise by FERC. As of February 1, 2022, Anderson Reservoir remains at deadpool. Valley Water is also expected to implement Avoidance and Minimization Measures (AMMs), such as securing alternative water supplies and lessening the impacts to groundwater recharge, flooding hazards, and other environmental effects; these collective actions are considered the FERC Order Compliance Project (FOCP).

Groundwater Basins

As the Groundwater Sustainability Agency (GSA) for the Santa Clara and Llagas subbasins, Valley Water works to protect and augment groundwater through the activities described in this report to ensure continued sustainable conditions. The Santa Clara Subbasin is divided into two management areas: the Santa Clara Plain covering the urbanized, northern Santa Clara Subbasin and the more rural Coyote Valley (see location map in Figure 1-2.1). The Llagas Subbasin extends from the Morgan Hill area to the county's southern boundary. While surface-water reservoirs are a visible indicator of the local water supply, the majority of local reserves lie hidden beneath our feet in these large groundwater subbasins. Because the groundwater subbasins can store two times more water than all the local surface-water reservoirs combined, Valley Water strives to maintain adequate groundwater storage in wet and average years to ensure water supply reliability during dry periods or shortages.

Due to drought conditions, groundwater levels declined in 2021 throughout the county, including at the three index wells that Valley Water uses to characterize general groundwater trends and conditions (see location map in Figure 1-2.1 and related hydrographs in Figures 1-2.2 through 1-2.4[5]). However, water levels in 2021 remained well above thresholds established to prevent renewed land subsidence[6]. Valley Water continues to closely monitor groundwater levels and land subsidence conditions.

[5] The previous index well for the Llagas Subbasin (10S03E13D003) was destroyed in 2019. The new index well is 10S03E01N005, which has a very similar water level history.

[6] To avoid additional permanent subsidence due to groundwater overdraft, Valley Water has established water level thresholds at ten index wells throughout the Santa Clara Plain. A tolerable rate of 0.01 feet per year of land subsidence was applied to determine threshold groundwater levels for these wells. Threshold groundwater levels are the groundwater levels that must be maintained to ensure a low risk of unacceptable land subsidence.

Figure 1-2.1 Map of Index Well Locations

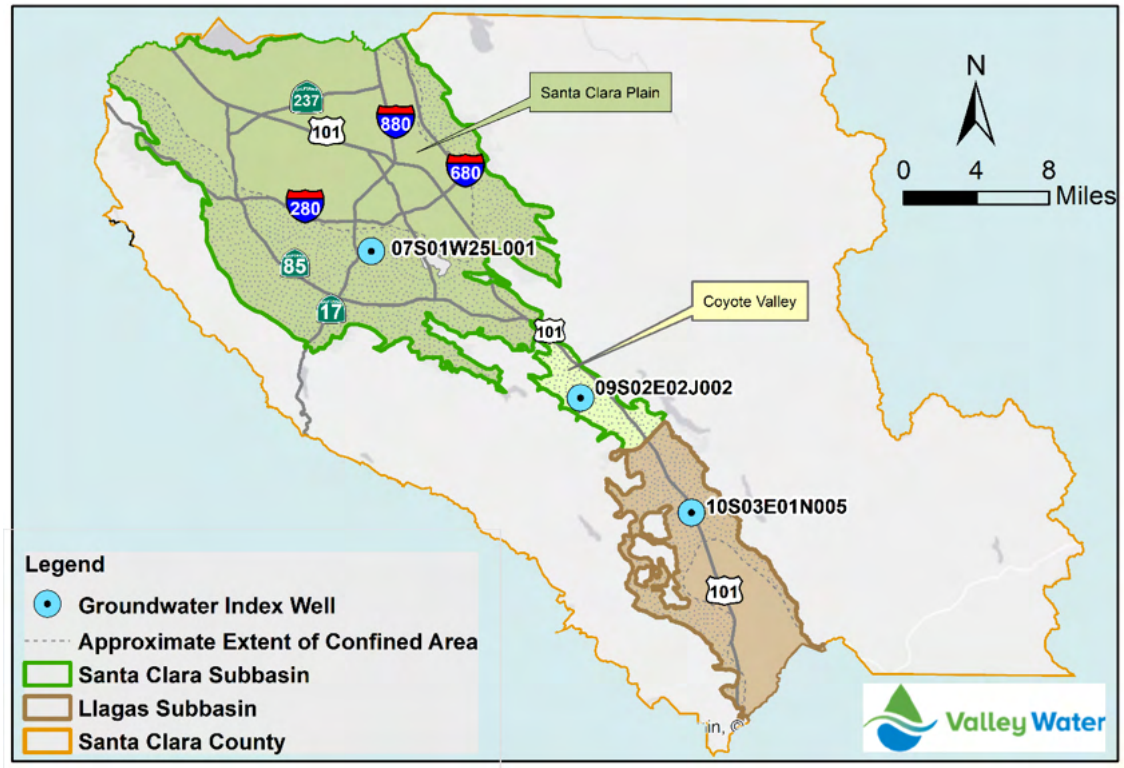


Figure 1-2.2 Santa Clara Plain Groundwater Elevations (Index Well 07S01W25L001)

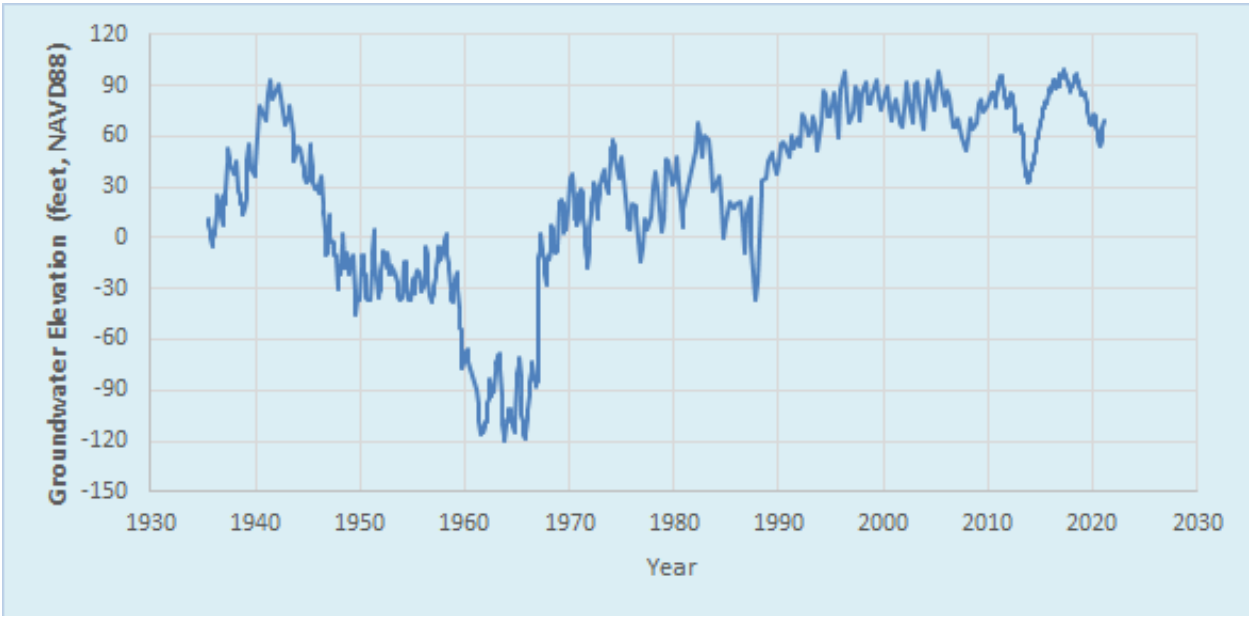


Figure 1-2.3 Coyote Valley Groundwater Elevations (Index Well 09S02E02J002)

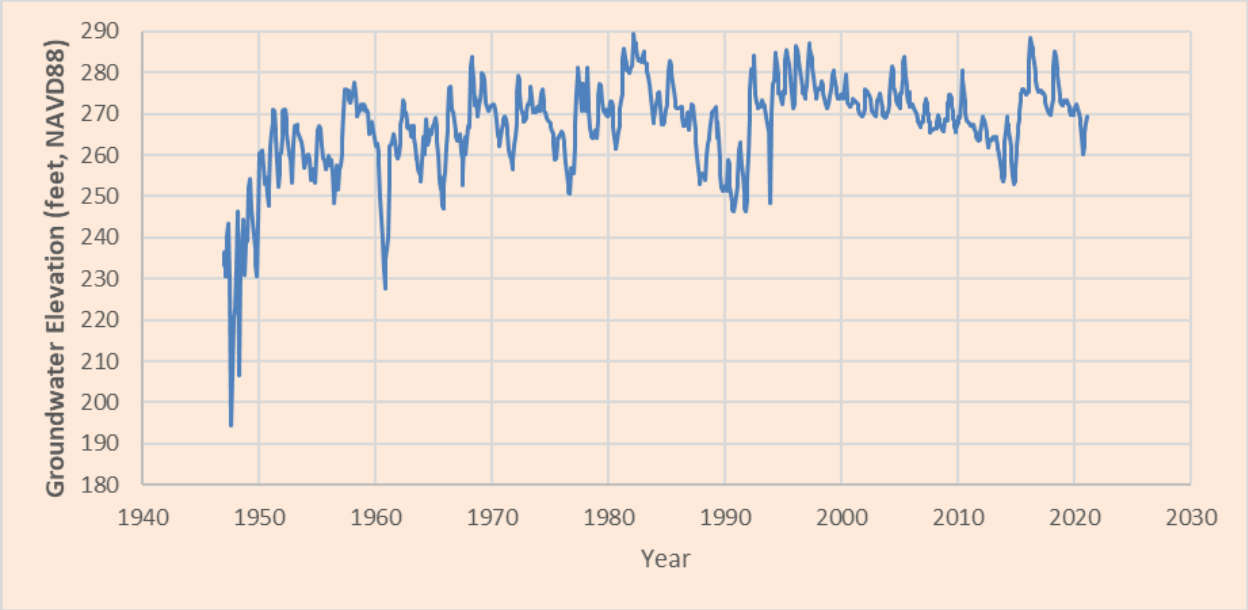
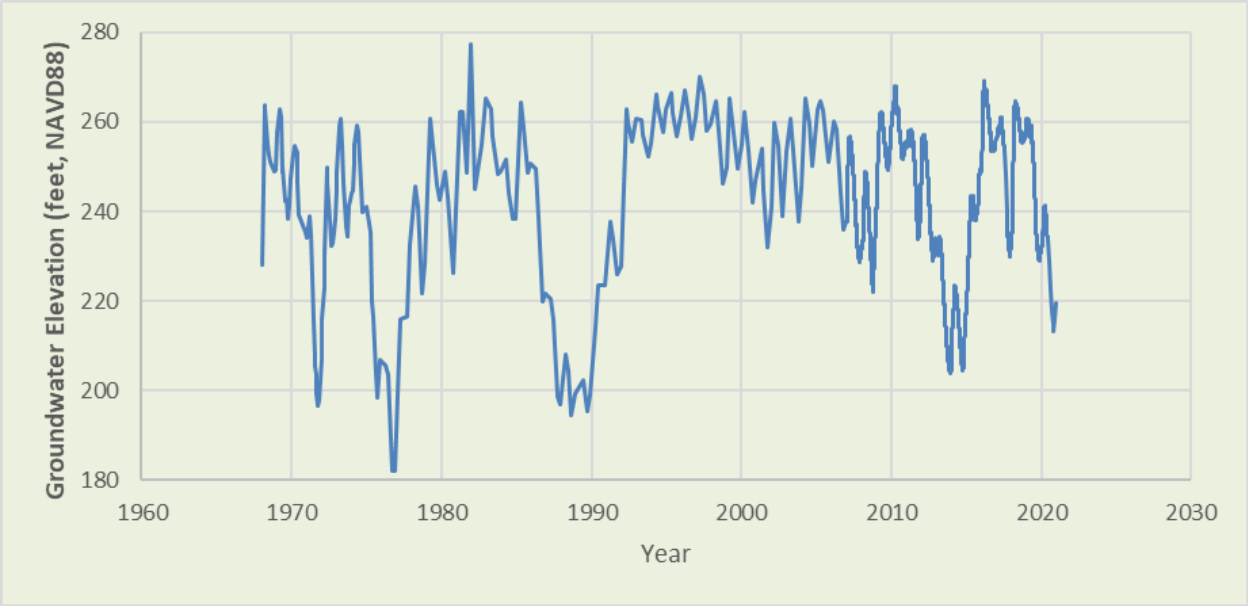


Figure 1-2.4 Llagas Subbasin Groundwater Elevations (Index Well 10S03E01N005)



Estimated groundwater storage in 2021 is about 30,300 AF less than in 2020, as shown in Table 1-2.3. However, the 2021 storage estimate of 308,500 acre-feet continues to be above the groundwater sustainability outcome measure of 300,000 acre-feet and within the normal stage of the Water Shortage Contingency Plan. Despite the drought conditions, the healthy 2021 groundwater reserves can be attributed to water use reduction by the community and Valley Water's proactive conjunctive management practices, such as securing emergency imported water supplies. Valley Water continues to closely track water supply conditions and modify operations accordingly. Monthly water supply conditions are summarized in Valley Water's Water Tracker,

which is available on Valley Water's website[7]. A more detailed evaluation of groundwater conditions will be presented in Valley Water's annual 2021 groundwater report, which will include reporting on outcome measures related to groundwater storage, levels, quality, and subsidence.

Table 1-2.3 End-of-Year Groundwater Storage and Change in Storage

	Cumulative Groundwater Storage Estimates AF (acre-feet)		
	End of Year 2020	End of Year 2021	Change in Storage AF
Santa Clara Subbasin, Santa Clara Plain	300,500	276,300	-24,200
Santa Clara Subbasin, Coyote Valley	14,700	12,100	-2,600
Llagas Subbasin	23,600	20,100	-3,500
Total	338,800	308,500	-30,300

Note: Storage estimates are refined as more pumping and recharge data become available.

Water Use Reduction

Valley Water's Water Shortage Contingency Plan establishes the water use reduction needed based on projected end-of-year groundwater storage as shown in Table 1-2.4. A Drought Response Plan is currently being developed that will update the Water Shortage Contingency Plan and is expected to be completed in 2023.

The Board approved a water use reduction resolution on June 9, 2021 in response to severe drought, low imported water allocations, uncertainty in receiving supplemental imported water, and the unavailability of Anderson Reservoir for water storage due to a required seismic retrofit project. The combination of these factors created possible risks for land subsidence and dry wells. Valley Water's resolution on June 9, 2021 declared a water shortage emergency condition pursuant to California Water Code §350, called for water use reduction of 15 percent compared to 2019, and urged the County of Santa Clara to proclaim a local emergency. The County's proclamation of drought emergency was ratified on June 22, 2021.

Valley Water estimates the end of 2021 groundwater storage was approximately 308,500 acre-feet, which falls into the "Normal" stage of our five-stage Water Shortage Contingency Plan. The five stages are shown in Table 1-2.4. Valley Water's efforts to obtain emergency imported water supplies and support reduced water use by the community resulted in this positive outcome despite continued drought conditions.

[7] The Water Tracker is available on Valley Water's website: *https://www.valleywater.org/your-water/water-supply-planning/monthly-water-tracker.*

Table 1-2.4 Water Shortage Contingency Plan Action Levels

Stage	Title	Projected End-of-Year Groundwater Storage (Acre-Feet)	Suggested Short-Term Reduction in Water Use
1	Normal	Above 300,000	None
2	Alert	250,000 to 300,000	0 – 10%
3	Severe	200,000 to 250,000	10 – 20%
4	Critical	150,000 to 200,000	20 – 40%
5	Emergency	Less than 150,000	Up to 50%

Suggested short-term reductions in water use shown. Actual calls for water use reduction are subject to Board approval.

Valley Water Drought Response

Valley Water addresses droughts utilizing a proactive, adaptive management approach to constantly track the quantity and resilience of water supplies, monitor indicators of risk to water supplies and land subsidence, and implement actions as needed. Valley Water's drought response is intended to (1) minimize economic, social, and environmental hardship; (2) establish water use reduction targets focused on eliminating non-essential use; and (3) safeguard essential water supplies for public health and safety needs.

Valley Water's strategies to address drought include reducing countywide water use, securing imported water supplies as needed, effectively managing surface water and groundwater supplies, optimizing treated water quality and availability, and enhancing drought resilience through efforts such as expanding the use of purified water. During droughts, Valley Water has increased the rebate rates offered by water conservation programs to encourage participation. Valley Water also has extensive public outreach and education programs which expand water conservation awareness and messaging during droughts. Drought response efforts are implemented using a highly collaborative approach working with retailers and municipalities. Valley Water provides regular updates to the Board, Committees, retailers, and municipalities in order to share drought status, response efforts, and water use reduction progress, and to obtain feedback.

1-3 CURRENT WATER DEMAND

As mentioned above, in June 2021, the Board adopted a resolution calling for a 15 percent reduction in water use compared to 2019. Accordingly, water use in Santa Clara County has been progressively decreasing since June 2021. Overall, the county's water use decreased slightly in 2021 compared to 2019, as shown in Table 1-3.1. Imported water allocations, transfers, exchanges, and groundwater

banking withdrawals brought approximately 158,680 acre-feet to meet 2021 demands.

To meet current and future demands, Valley Water continues to implement its long-term water conservation program. Water conservation is key to water supply reliability in Santa Clara County. It is an environmentally friendly and cost-effective option that reduces the need for new water supply projects and investments and groundwater pumping. With Valley Water's target of saving nearly 110,000 acre-feet of water per year by 2040 from a 1992 baseline through conservation programs and stormwater capture projects, the long-term conservation program offers technical assistance and a variety of incentives to achieve sustainable water savings. The program saved approximately 78,000 acre-feet in calendar year 2021.

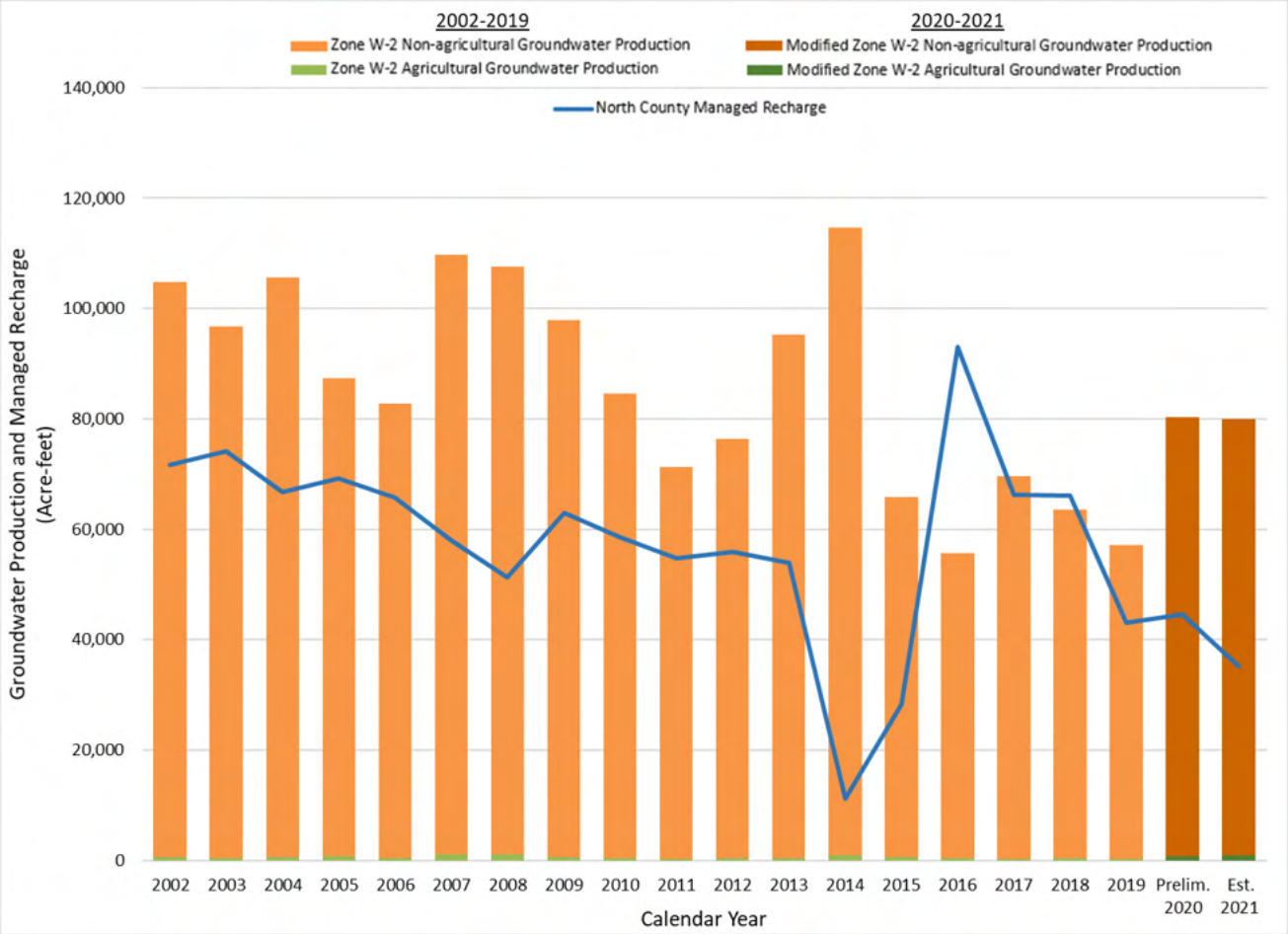
Table 1-3.1 shows unadjusted water use in Santa Clara County. Figures 1-3.1 and 1-3.2 show a breakdown of groundwater production and managed recharge by water charge zone. Table 1-3.2 shows a historical summary of surface water supply, use and distribution for the last three years.

Table 1-3.1 Water Use in Santa Clara County for Calendar Years 2019-2021

Historical Calendar Year Water Use and Conservation	In Acre-feet[1]		
	Actual 2019	**Preliminary 2020**	**Estimated 2021**
Groundwater Pumped	108,300	133,100	135,300
Treated Water	102,000	102,900	94,000
Raw Surface Water Deliveries	2,000	2,200	2,100
SFPUC Supplies to Local Retailers[2]	48,200	49,400	46,900
San José Water Company Water Rights	16,400	3,700	800
Recycled Water	17,200	16,900	16,700
Total Water Use[3]	**294,100**	**308,200**	**295,800**
Conservation[4]	*73,000*	*75,000*	*78,000*
Estimated Total without Conservation	*367,100*	*383,200*	*373,800*

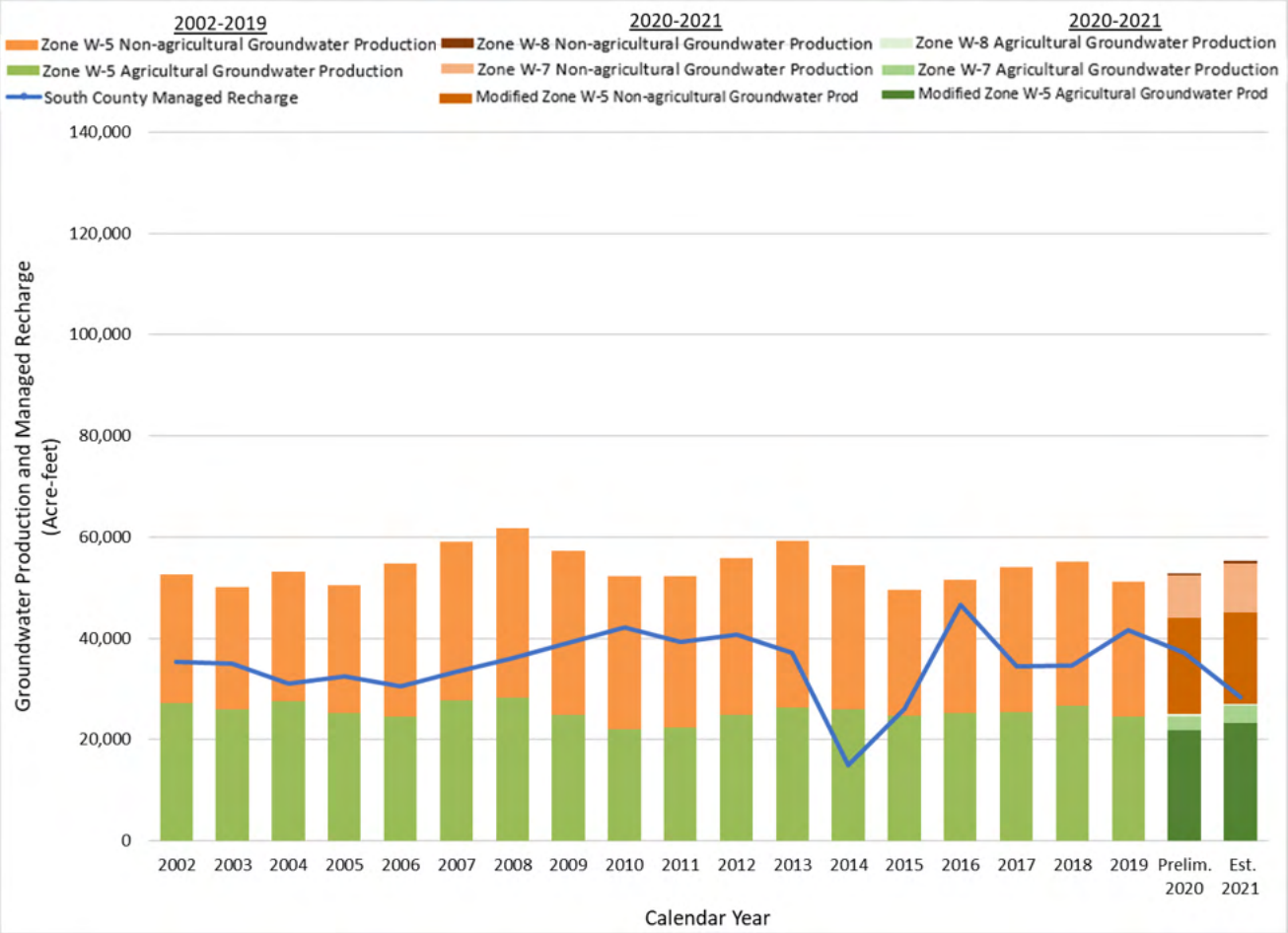
[1] All values are rounded to the nearest hundred. Data is as of February 1, 2022 and may be subject to change.
[2] San Francisco Public Utilities Commission supplies to 8 retailers and NASA-Ames.
[3] Stanford has historically utilized between 200-1000 Acre Feet/Year of its water rights. This is not reflected in the table above.
[4] Conservation numbers are estimated using Valley Water's conservation tracking model. The model reports conservation savings by fiscal year, which are used to approximate conservation on a calendar year basis, rounded to the nearest thousand acre-feet.

Figure 1-3.1 Groundwater Production and Managed Recharge in North County



Values are based on best available information and are refined as additional data becomes available. The Board adopted new groundwater benefit zones that went into effect on July 1, 2020. Groundwater production prior to 2020 reflects usage in the zones in effect at the time while 2020 production reflects the newly adopted zones. Groundwater pumping data from wells located outside the current charge zone are not included in the CY 2020 pumping estimate. Managed recharge reflects the volume applied on the land surface; subsurface flow is not considered in the above graph.

Figure 1-3.2 Groundwater Production and Managed Recharge in South County



Values are based on best available information and are refined as additional data becomes available. The Board adopted new groundwater benefit zones that went into effect July 1, 2020. Groundwater production prior to 2020 reflects usage in the zones in effect at the time while production beginning with 2020 reflects the newly adopted zones. Groundwater pumping data from wells located outside the current charge zones are not included in the CY 2020 pumping estimate. Managed recharge reflects the volume applied on the land surface; subsurface flow is not considered in the above graph.

Table 1-3.2 Historical Surface Water Supply, Use and Distribution for Three Previous Calendar Years

	Calendar Year, in Acre Feet		
	Actual 2019	Preliminary 2020	Estimated 2021
Valley Water Supplies			
Local Surface Water			
Inflow (net, minus evap)	227,610	23,790	49,060
Surface Water Storage Releases (+) or additions to(-)	-13,450	+34,090	-24,150
Imported Water			
Prior year carryover	9,720	40,590	48,830
Delta flood flows	4,260	0	0
State Water Project contract allocation	75,000	20,000	5,000
Central Valley Project contract allocation	122,330	97,620	71,500
Semitropic water bank withdrawals [1]	0	16,800	35,960
Water transfers and exchanges [1]	8,780	15,290	46,220
Returned to Valley Water from SFPUC via intertie	430	160	70
Total District Supplies:	**434,680**	**248,340**	**232,490**
Distribution of Valley Water Supplies			
To groundwater recharge			
Santa Clara Plain (Santa Clara Subbasin)	43,110	44,510	35,260
Coyote Valley (Santa Clara Subbasin)	15,590	17,990	13,320
Llagas Subbasin	26,100	19,020	15,020
To treated water	102,010	102,930	93,980
To surface water irrigation	2,000	2,240	2,120
To environment	135,480	11,120	5,310
To Semitropic water bank	63,600	0	0
To imported water carryover for use in subsequent year			
Used by Valley Water	40,590	48,830	67,480
Returned to SWP/CVP	0	0	0
To water transfers and exchanges	6,180	1,630	0
Returned to SFPUC via intertie	20	70	0
Total Distribution of District Supplies:	**434,680**	**248,340**	**232,490**
Other Supplies			
San José Water Co. water rights [2]	16,370	3,730	800
Recycled water (including Valley Water)	17,190	16,910	16,670
SFPUC deliveries to retailers & NASA Ames	48,210	49,430	46,870
Total Other Surface Water Supplies	81,770	70,070	64,340
Total Managed Supplies:	**516,450**	**318,410**	**296,830**

Note: Numbers rounded to the nearest 10AF.

1. These values include supply secured in that year but may have been carried over to a future year.

2. Stanford has historically utilized between 200-1000 AFY of its water rights. This is not reflected in the table above.

2-1 OVERVIEW

As the water management agency and principal water wholesaler for Santa Clara County, Valley Water is responsible for planning (in collaboration with San Francisco Public Utilities Commission [SFPUC] and local retailers) the water supply of the county to meet current and future demands.

Water supply reliability includes the availability of the water itself as well as the reliability and integrity of the infrastructure and systems that capture, store, transport, treat and distribute it. Valley Water strives to meet 100 percent of demands during normal times and request for no more than a 20 percent water use reduction during times of shortage, including satisfying its treated water contracts for deliveries to the retail water suppliers. As the groundwater manager for the county, Valley Water's goal is to protect and augment groundwater to ensure it remains a viable source both now and in the future.

Since water supplies available to the county are obtained from both local and imported sources, Valley Water's water supply relies on the amount of precipitation that falls both locally and in the watersheds of Northern California. The supply available is also dependent on the facilities in place to manage the supply. Sources of water supply in northern Santa Clara County (North County) consist of locally captured and managed water, recycled water, water imported by Valley Water via the SWP and the federal CVP and supplies from SFPUC's regional water system to some of the retail water suppliers. Southern Santa Clara County (South County including Coyote Valley and Llagas Subbasin) is supplied by locally developed and managed water, recycled water, and CVP water.

2-2 PROJECTED FUTURE WATER SUPPLY AVAILABILITY AND DEMAND

Near Term Water Supply Availability

Valley Water begins preparing Valley Water's Annual Water Supply Operations and Contingency Strategy for the upcoming calendar year in the fall of each year. The strategy is composed of numerous operations and water supply management scenarios that account for the probable range of water supply conditions that Valley Water can expect in the upcoming year. These variable conditions include precipitation, locally and in the Sacramento-San Joaquin Delta watershed, as well as allocations of imported supplies. Local precipitation and runoff impact our local reservoir storage, stream flow, and natural recharge of the groundwater basins. The quantity of precipitation in the Sacramento-San Joaquin Delta watershed and the timing of snowmelt impact Valley Water's imported water supplies that are conveyed through the Delta. Other factors that impact Valley Water's water supply include infrastructure and facility limitations; planned and unplanned facilities

outages; contractual obligations; the ability to bring in banked Valley Water supplies from Semitropic Water Storage District; and regulatory, institutional, and legal constraints.

As described in Section 1 of the report, rainfall year 2021–22 began with an above average December in terms of local rainfall. Below-average precipitation materialized in the month of January. The Northern portion of California saw above-average precipitation at the onset of the rainfall year. The Northern Sierra 8-Station Precipitation Index total from the beginning of October through the end of January of 2022 was 31.5 inches, which is about 114 percent of the seasonal average to date and 59 percent of an average water year.

California Department of Water Resources announced an initial 2022 allocation to meet a contractor's human health and safety needs only On January 20, 2022, it later revised the allocation to 15 percent but may still provide adjustments for human health and safety. The Bureau of Reclamation has yet to set its initial CVP allocations for 2022. The initial allocations are subject to change as the water year progresses.

Local surface water supplies have been reduced because of the loss in Valley Water reservoir storage capacity due to regulatory restrictions to address seismic concerns. Regulatory restrictions at Anderson Reservoir, the largest Valley Water owned surface reservoir, have resulted in the loss of nearly all of its storage capacity.

Table 2-2.1 reflects the probable range of local and imported surface water supplies Valley Water currently expects in calendar year 2022. In conjunction with surface water supplies, groundwater reserves are managed to supplement available supplies during dry periods and to ensure that there are adequate supplies to meet current and future demand. The strategy will be continuously updated throughout the year to account for operations to-date and real-time conditions.

Table 2-2.1 Projected Calendar Year 2022 – Range of Surface Water Supply

Projected Calendar Year 2022 Supply in Acre-Feet		
	Average Year	**Dry Year**
Imported Water [1]	86,500 – 121,500	47,500 – 72,500
Local Surface Water	45,800	5,000
Total	**132,300 – 167,300**	**52,500 – 77,500**

1. Imported Water Supplies are based on a range of SWP allocations provided during the January -24, 2022 State Water Contractors Water Operations meeting and CVP allocations that may possibly occur in an average or dry year. The average year projection assumes between 15-50% allocation for SWP, -0% allocation for CVP agriculture (Ag), and 55% allocation for CVP M&I. The dry year assumes between 15-40% allocation for SWP, 0% allocation for CVP Ag, and 25% for CVP M&I. Transfers, exchanges, banking, and carryover are not included as it is unknown at this point which of these supplies are needed for the upcoming year.

Long-Term Projected Demand and Water Supply

The long-term water supply and demand projections are based on analyses for the Water Supply Master Plan 2040 adopted in November 2019 and its associated Monitoring and Assessment Program (MAP), as well as Valley Water's and retailers' Urban Water Management Plans. The Water Supply Master Plan presents Valley Water's long-term water supply outlook without additional investments and then describes the type and level of investment Valley Water should make to provide a reliable supply of water. The Water Supply Master Plan also includes the Monitoring and Assessment Program to make sure Valley Water's investment strategy is on track by providing annual updates to the water supply and demand forecasts and tracking the progress of potential projects. The projections below include existing and planned investments, which are described further in Section 3.

Water Demand

The Water Supply Master Plan 2040 demand forecast was developed during the 2012-2016 drought with anticipation that a full rebound in demands would occur once the drought ended. However, a significant drought rebound has not yet materialized and there is not likely to be a rebound to pre-drought water use. Considering the muted drought rebound, Valley Water updated demand forecasts through the MAP and published the new forecasts in October 2020. The updated demand forecasts integrated the latest growth forecasts projected by the Association of Bay Area Governments and Metropolitan Transportation Commission Plan Bay Area 2017, which projects that the population of the county will increase from nearly 2 million in 2020 to about 2.5 million by the year 2040. Jobs are projected to increase from about 1.1 million in 2020 to about 1.3 million in 2040. Even though per capita water use continues to decline, Valley Water estimates that increases in population and jobs will result in an increase in water demands from a current average of approximately 310,000 acre-feet to approximately 342,000 acre-feet in 2045. This forecast takes into account implementation of Valley Water's long-term water conservation programs but does not include short-term water use reductions that might be requested during a drought or other water shortage. Through the MAP, current water use and growth will continue to be tracked by Valley Water to inform future adjustments to the demand forecasts, as needed. In particular, Valley Water will track how the current drought impacts the rebound from 2012-2016 drought since that is a key assumption in the demand model.

Conservation

Valley Water and all major retail water providers partner in regional implementation of a variety of water-use efficiency programs (water conservation programs) to permanently reduce water use in the county. Valley Water's long-term savings target is to achieve 109,000 acre-feet per year in water savings by 2040 (110,000 acre-feet per year when including stormwater capture projects). The Water Supply Master Plan 2040's "No Regrets" package includes water conservation programs designed to achieve this ambitious water savings target, as well as stormwater capture/recharge programs. Additionally, the Water Conservation Act of 2009 required all retail water agencies in the state, with assistance from the water wholesalers, to reduce per capita water use 20 percent by 2020. Valley Water's long-term conservation programs successfully supported this effort, and

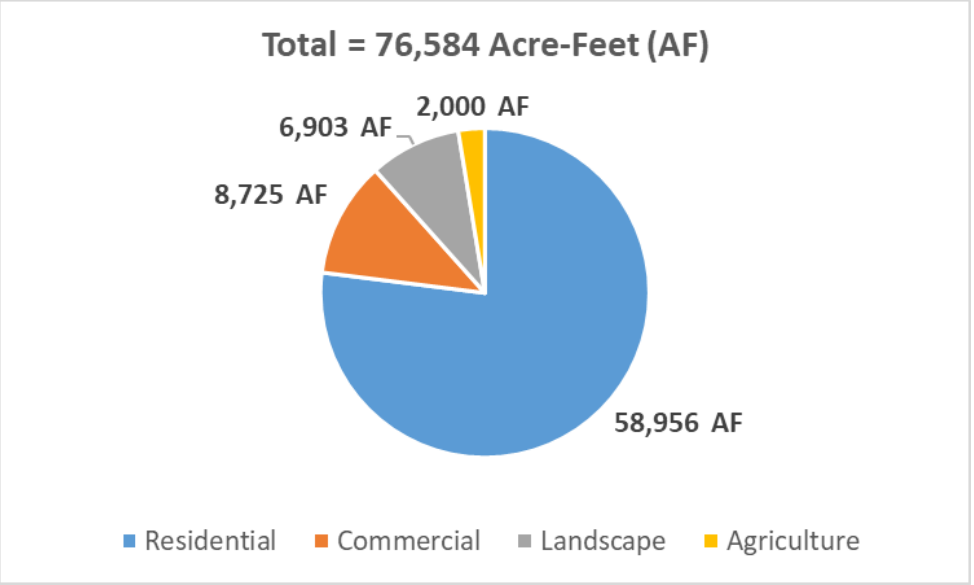
countywide water use was 20 percent lower during the 2014-2019 period than in 2013.

The State's "Making Conservation a California Way of Life" policy builds on the success of the Water Conservation Act of 2009. "Making Conservation a California Way of Life" policy creates a new framework for water suppliers to develop locally-specific strategies to remain in compliance of the statewide policy. This policy establishes "water use objectives" for retail water providers, which are the sum of its indoor residential water use; outdoor residential water use; commercial, industrial, and institutional water use; and water loss. The recommendations, objectives, and standards are expected to be adopted by the California Department of Water Resources and State Water Resources Control Board in calendar year 2022. Valley Water's water conservation programs will help ensure success, as they had with implementation of the Water Conservation Act in the past.

To identify strategies to achieve both Valley Water's aggressive long-term targets and the State's "Making Conservation a California Way of Life" policy objectives, Valley Water completed a Water Conservation Strategic Plan (Strategic Plan) in 2021. The Strategic Plan details specific recommendations and strategies for increasing participation rates, addressing geographic or demographic disparity in participation trends, and considering the creation of new programs and conservation policies. Importantly however, the Strategic Plan determined that the type and variety of programs Valley Water offers are sufficient to meet the long-term savings target if resources are invested to increase participation rates. Adoption of local conservation policies such a Model Water-Efficient New Development Ordinance have the potential to meet the long-term savings target earlier and more cost effectively than without such policies.

Valley Water implements nearly 20 different ongoing water conservation programs that use a mix of incentives and rebates, free device installation, free delivery of water-saving devices and educational resources, one-on-one home visits, site surveys, and educational outreach to reduce water consumption in homes, businesses and agriculture. Figure 2-2.1 shows Valley Water's conservation savings in the past Fiscal Year 2020-21 broken out by categories of Residential, Commercial, Landscape and Agriculture. These programs are designed to achieve sustainable, long-term water savings and are implemented regardless of water supply conditions. Without these savings, the demands shown in Figure 2-2.2 would be substantially higher. Additional information about the Water Conservation Strategic Plan and available water conservation programs can be found at *www.watersavings.org*.

Figure 2-2.1 Long-Term Water Conservation Savings in FY 2020-21



Water Supply

Several sources of supply contribute to Valley Water's ability to meet future demands, including local surface water and natural groundwater recharge, recycled and purified water, supplies delivered to retailers by the SFPUC, and Delta-conveyed imported water supplies:

Local Surface Water and Natural Groundwater Recharge

Local surface water supplies are expected to increase over current levels after Valley Water completes seismic retrofits on several dams to be operated at full capacity. In addition, the stormwater capture projects in Water Supply Master Plan 2040's "No Regrets" package are projected to increase the volume of local water used for groundwater recharge. Valley Water is also considering constructing new groundwater recharge facilities, that would increase Valley Water's ability to recover groundwater storage rapidly after a drought. The new recharge facilities being considered could potentially recharge water from Anderson Reservoir or recharge Valley Water's imported water supplies.

Recycled and Purified Water

Recycled and purified water is a local, reliable source of water supply that helps meet demands in wet, normal, and dry years. Recycled and purified water use is expected to steadily increase in the long- term. Valley Water's 2020 Urban Water Management Plan estimates that retailers will use approximately 25,000 acre-feet per year (AFY) of non-potable recycled (NPR) water to meet 2045 demands. Current NPR water use is approximately 17,000 AFY on average. Valley Water's Board has set a supply objective to meet at least 10 percent of the county's total water demands using recycled and purified water. In June 2021, Valley Water completed a Countywide Water Reuse Master Plan (CoRe Plan) in collaboration with recycled water producers, wholesalers, retailers, and other interested stakeholders that includes

recommendations for potable reuse projects to produce (in addition to the 25,000 AFY of NPR) up to 24,000 acre-feet per year of potable reuse (purified water) consistent with the Water Supply Master Plan 2040.

In the near-term, the Board has directed Valley Water staff to proceed with a smaller size purification facility based on decreased water demand projections. In December 2019, Valley Water executed an agreement with the cities of Palo Alto and Mountain View with an option to receive over 10,000 acre-feet per year of treated wastewater from the Palo Alto Regional Water Quality Control Plant for an extended period – up to 76 years. Discussions are underway for a similar source water agreement with the Cities of San José and Santa Clara. In 2020, staff began California Environmental Quality Act (CEQA) development to support construction of an Indirect Potable Reuse (IPR) project using a Public-Private Partnership (P3) procurement process to with an annual yield of 11,200 AFY that would be delivered to the Los Gatos Recharge System from a new purification facility in Palo Alto.

Building on the Success of Existing Partnerships

To achieve water reuse goals, Valley Water is building on its partnerships with four water reuse systems in the County, referred to as our Partner Agencies, to integrate existing plans and infrastructure. The Partner Agencies include:

1) Palo Alto/Mountain View Recycled Water System. Valley Water is working with Palo Alto and Mountain View to evaluate water reuse alternatives, including the construction of a 1.25 to 2.5 million gallons per day Advanced Water Purification Facility (AWPF) at the Palo Alto Regional Water Quality Control Plant to reduce salinity of recycled water, and collaboration for a larger regional AWPF to produce purified water for future potable reuse.

2) South Bay Water Recycling (SBWR). SBWR receives tertiary treated recycled water from the San José/Santa Clara Regional Wastewater Facility (RWF). The RWF produces recycled water for SBWR to distribute to retailers, including the City of San José, City of Milpitas, San José Water Company, and the City of Santa Clara. In 2014, Valley Water collaborated with the City of San José in constructing the Silicon Valley Advanced Water Purification Center, which produces purified water which is blended into the SBWR system to improve water quality.

3) South County Regional Wastewater Authority (SCRWA). In 1999, SCRWA partnered with Valley Water to create a master plan and capital improvement program and agreed that Valley Water would distribute wholesale recycled water produced by SCRWA. Valley Water has partnered with various partners such as developers and other potential recycled water users in the Gilroy area to construct new pipelines and extend the South County RWS.

4) Sunnyvale Recycled Water System (RWS). Starting in 2013, Valley Water partnered with Sunnyvale on the Wolfe Road pipeline design and construction to expand water reuse distribution. The completed pipeline delivers recycled water from the RWS to Apple Inc. in Cupertino, with Valley Water as the wholesaler and California Water Company as the retailer. Valley Water and Sunnyvale are jointly evaluating additional potable water reuse alternatives, including an AWPF near the Sunnyvale Water Pollution Control Plant.

San Francisco Public Utilities Commission (SFPUC)

SFPUC water supplies to common retailers reduce demands on Valley Water supplies in northern Santa Clara County. Most of the common retailers have supply guarantees from SFPUC that are not expected to change over time. However, two retailers (the City of San José and the City of Santa Clara) have interruptible contracts. If the SFPUC interrupts supplies to these retailers, there could be additional demand for Valley Water supplies.

An intertie facility between Valley Water and SFPUC provides a backup supply of healthy, clean drinking water to the residents of Alameda and Santa Clara Counties in an emergency or when planned maintenance activities require supplemental water supply from one agency to the other.

Delta-Conveyed Imported Water

Valley Water holds contracts with the California Department of Water Resources and U.S. Bureau of Reclamation for up to 252,500 AF per year of supplies, with actual deliveries subject to availability of water supplies and the satisfaction of regulatory constraints to protect fish, wildlife, and water quality. These Delta-conveyed imported water deliveries from the SWP and CVP have been negatively impacted by significant restrictions on Delta pumping required by biological opinions and permits issued by the U.S. Fish and Wildlife Service (FWS, October 2019), National Marine Fisheries Service (NMFS, October 2019), and California Department of Fish and Wildlife (CDFW, 2020) and by water rights permit conditions imposed by the State Water Resources Control Board (Decision-1641, 1999).

Based on modeling projections provided by the California Department of Water Resources, future average imported water deliveries could decrease with additional regulatory restrictions and impacts from climate change. On September 24, 2019, the Valley Water Board of Directors adopted a resolution that expresses support for Governor Newsom in his development of a single-tunnel Delta Conveyance Project and adopted Guiding Principles to shape Valley Water participation in the project. On November 17, 2020, the Board adopted a resolution to approve a provisional participation percentage in the Delta Conveyance Project of 2.73 percent and authorize the Chief Executive Officer to increase Valley Water's provisional participation percentage up to a total of 3.23 percent if additional shares become available. Additional shares became available, and Valley Water increased its provisional participation rate to 3.23 percent.

In addition to the Delta Conveyance Project, Valley Water is also considering expanding local storage for our imported supplies by expanding the Pacheco Reservoir. The stored supplies in Pacheco Reservoir could then be used during dry years. In November 2018, the Valley Water Board of Directors approved the contracting of two consultant firms to assist us in moving forward with planning and design efforts for the Pacheco Reservoir Expansion Project. Planning and design efforts have progressed with extensive field investigations, operational modeling, engineering analyses, benefits assessments, cost estimates, and impact studies for this project. In addition, Valley Water is considering investing in the Los Vaqueros Reservoir Expansion Project, including the proposed Transfer-Bethany Pipeline, to provide flexibility in how Valley Water stores and receives Delta-conveyed supplies.

Future Water Supply Investments

The Water Supply Master Plan 2040 provides a long-term strategy for ensuring Valley Water's water supply sustainability through 2040. The strategy has three core elements:

1) Secure existing supplies and infrastructure: Projects include the Delta Conveyance Project, dam seismic retrofits, and other capital improvement projects to maintain existing infrastructure. Repairing and maintaining the existing infrastructure minimizes the number of new projects Valley Water needs to invest in to meet future demands.
2) Increase water reuse and conservation: Projects include developing up to 24 thousand acre-feet of potable reuse, stormwater capture projects, and demand management projects to meet Valley Water's water conservation savings target of 110 thousand acre-feet by 2040 compared to 1992 water use. The stormwater capture and demand management projects are also referred to as the "No Regrets" suite of projects. Demand management, stormwater capture, and water reuse are critical elements of the water supply strategy. They are resilient to climate change and are local solutions for meeting future demands.
3) Optimize the use of existing supplies and infrastructure: Projects include the Transfer Bethany Pipeline portion of the Los Vaqueros Reservoir Expansion, the Pacheco Reservoir Expansion, and a Llagas groundwater sub-basin recharge project. Valley Water's existing supplies are sufficient to meet current and future needs in all but the driest years. In some years, supplies exceed needs, so additional facilities could increase the flexibility to use those supplies. Planned investments in the Transfer Bethany Pipeline, South County Recharge project, and Pacheco Reservoir Expansion help Valley Water maintain operational flexibility into the future.

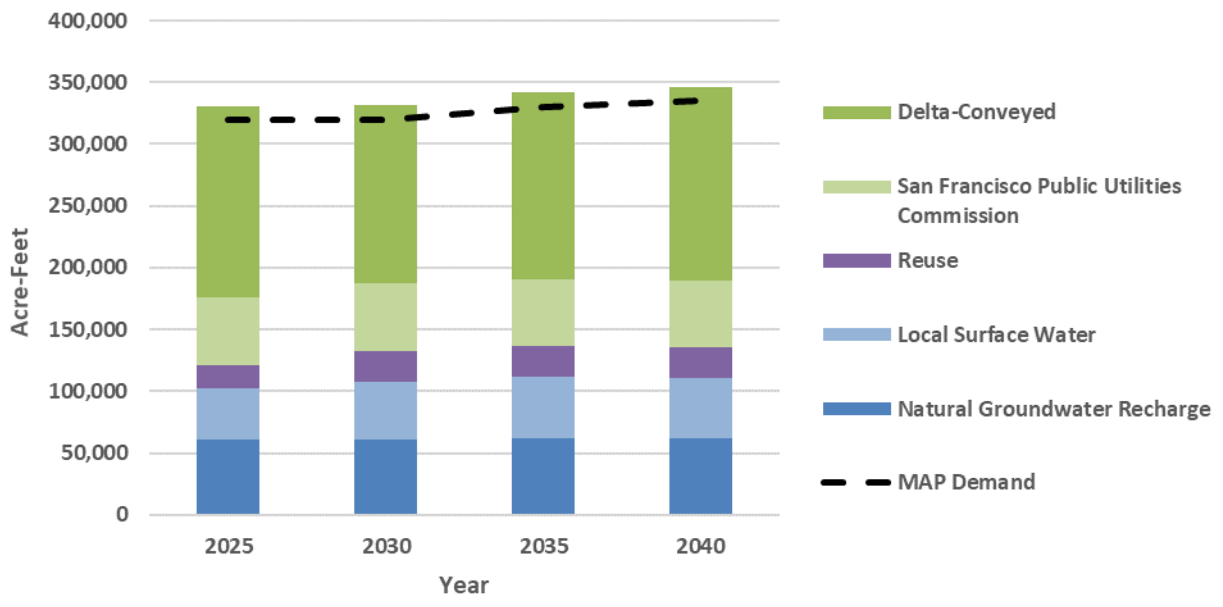
The Water Supply Master Plan 2040 includes a Monitoring and Assessment Program (MAP) to provide a planning mechanism for adapting to changing supply and demand conditions, climate change, regulatory and policy changes, other risks, and uncertainties. Through regular annual monitoring of specific projects and overall conditions, Valley Water will assess whether changes to Water Supply Master Plan 2040's strategies or projects may be needed. Alternative projects will be evaluated based on their impacts to the water supply reliability level of service, costs, relationships with other projects, risks and opportunities, and stakeholder input. Any changes to Water Supply Master Plan 2040 will be reflected in this annual report, as well as the Capital Improvement Program

and budget.

The Monitoring and Assessment Program 2020 study updated the demand forecasts for Santa Clara County and extended them out to 2045. The Monitoring and Assessment Program 2021 study evaluated proposed investments considering the updated demand forecasts and a more in-depth climate change analysis.

Figure 2-2.2 shows projected average supplies and demands through year 2040 as evaluated in the Monitoring and Assessment Program. The projection assumes existing supplies and infrastructure are maintained, the conservation savings target of 110,000 AFY by 2040 is achieved, and the proposed projects approved for planning through the Water Supply Master Plan 2040 adoption are invested in. An exception is that the Delta Conveyance Project is not included in the analysis since currently there is insufficient project information. The PAWS rate projections at the January 21, 2022, Board meeting also included the proposed projects from the Water Supply Master Plan 2040. In this case, average water supplies appear to be sufficient to meet future water demands as forecasted by the Water Supply Master Plan's Monitoring and Assessment Program 2020 study of supplies and demands through 2040. The analysis indicates that the projects approved for planning combined with the reduced demands provide Valley Water flexibility to respond to future uncertainties. Additional projects that Valley Water continues to evaluate in case a preferred project does not meet current expectations can be found in Appendix B of Water Supply Master Plan 2040.

Figure 2-2.2 Projected Average Supply & Demand Comparison, Santa Clara County



Reserves

Santa Clara County, like most of California, experiences drastic variation in annual precipitation. The variable precipitation causes annual fluctuations in water supply availability. Annual supplies can exceed demands in some years, while demands can greatly exceed supplies in other years. As part of its conjunctive management program, Valley Water prepares for this supply variability by storing excess wet year supplies in the local groundwater basins, local reservoirs, San Luis Reservoir, and the Semitropic Groundwater Bank. Valley Water draws on these reserve supplies during dry years to help meet demands. These reserves are generally enough to meet demands during a single critically dry year or the initial years of an extended drought. Based on analyses conducted as part of the Water Supply Master Plan 2040, Valley Water anticipates that supplies from the full implementation of the water supply investments in water conservation, stormwater capture, potable reuse, and imported supplies that the Board has approved for planning would be sufficient to exceed our level of service goal to meet at least 80 percent of demands during an extended drought.

2-3 CHALLENGES AND RISKS TO FUTURE WATER SUPPLY AVAILABILITY

Droughts

The unpredictable nature of droughts makes them Valley Water's greatest water supply challenge. Single year droughts can impact Valley Water's ability to maintain a groundwater recharge program. Multi-year droughts deplete reserves and can result in groundwater level declines and the risks of land subsidence and dry wells. Valley Water's conjunctive management program minimizes this risk but needs to be supported with continued investments in Valley Water's existing water supply system, increased water conservation, and the expansion of recycled and purified water. In addition, use of Valley Water's Water Shortage Contingency Plan also supports Valley Water's conjunctive management program during droughts.

Imported Water Supplies

Imported water supplies are at risk from increased regulatory restrictions, Delta levee failure, and impacts of climate change, including sea level rise and changing precipitation patterns. These risks could impact not only Valley Water's supplies but those of SFPUC as well. To mitigate these risks and improve the reliability of its imported water supplies, Valley Water participates with state and federal agencies, other water contractors, and environmental organizations in long-term planning efforts to improve Delta conveyance and restore ecosystem health. The goals of these planning efforts are to protect and restore both water supply reliability and the ecological health of the Delta and its tributaries. On May 8, 2018, and November 17, 2020, Valley Water voted to participate in planning for new Delta conveyance infrastructure and is now working with the state and water agency partners in support of a project that will meet the needs of the county.

The State Water Resources Control Board (SWRCB) approved amendments to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) in December 2018 that will result in increased restrictions on water users within the San Joaquin Basin

(Basin), potentially reducing SFPUC supplies. SWRCB staff are working with Basin stakeholders to develop voluntary agreements that will achieve an equivalent level of environmental protection while reducing impacts on water supplies. If these voluntary agreements are not developed and adopted by the SWRCB as an alternative to the December 2018 approved changes and the objectives in the recently approved plan are implemented, SFPUC supplies to Santa Clara County retailers will likely be reduced, which could increase demand for Valley Water supplies. Valley Water will continue to work with state officials and other agencies to address these concerns.

Climate Change

Future climate projections for Santa Clara County, California indicate increasing temperatures, increasing storm intensity, shifting seasonal and annual precipitation patterns, and increasing drought occurrence and severity. Each of these climatic changes can impact the reliability of our local and imported water supplies. Moreover, climate change models are also projecting reduced Sierra Nevada snowpack and increased San Francisco Bay sea level rise, which could also negatively affect imported water deliveries. Valley Water's water supply strategy helps adapt to future climate change by managing demands, providing drought-resilient supplies, and increasing system flexibility.

Other Risks and Uncertainties

Other risks and uncertainties to water supply include fisheries protection measures, random occurrences of hazards and extreme events resulting in local and/or imported water outages, more stringent water quality standards, water quality contamination, SFPUC changes in contracts with local water retailers, seismic restrictions on local reservoirs, and demand growth different than projected.

Investment Needs

Valley Water manages and addresses risks and uncertainties by building and maintaining an integrated and diverse water supply system. The water supply system that exists today will continue to meet most of the county's future water needs and is the foundation of future water supply investments. Thus, securing existing water supplies and infrastructure is critical to water supply reliability. Valley Water needs to continue to be vigilant in protecting the groundwater basins from overdraft and contamination, mitigating risks to imported and local supplies, expanding water conservation and water reuse, and maintaining and replacing the aging water supply infrastructure. These infrastructure investment needs will be further discussed in Section 3 of this report.

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3.1 ACTIVITIES TO PROTECT AND AUGMENT WATER SUPPLIES OF VALLEY WATER

Groundwater production charges and other water charges finance a program of activities to protect and augment water supplies of Valley Water. The program is comprised of activities and service functions in the areas of operations, maintenance, and construction, as illustrated in Table 3-1.1. These activities are designed to work together to meet Valley Water's Board-adopted end goals and policies as well as to provide benefits to the community.

Table 3-1.1 Program Activities to Manage and Provide a Sustainable Water Supply

Activities to Protect & Augment Water Supplies		End Goals & Benefits
	Services and Functions	• Reliable, clean water supply for current and future generations • Delivery of reliable high-quality drinking water • Sustainable water supply through integrated water management • Assets and resources managed for efficiency and reliability • Healthy, safe, and enhanced quality of living in Santa Clara County
Operation	• Planning & development • Water purchases • Transmission • Treatment • Distribution • Storage • Groundwater recharge • Conservation & water recycling • Regulatory compliance and mitigation	
Maintenance	• Surface water & groundwater resources protection & management • Asset protection & management	
Construction	• Capital improvement • Infrastructure management	

Revenue from groundwater production charges and treated water charges constitute the majority of funds needed to finance the operations costs of the Water Utility. About a third of the operating budget[8] is needed for imported water purchases to augment local supplies. About a quarter of the operating budget is needed to provide treated water to augment groundwater supply in meeting water demand. The balance is used to provide program services including conjunctive management and protection of surface water and groundwater resources, operation and maintenance of facilities, water conservation, planning and development of recycled water and other alternative sources of supply, as well as administrative and support services.

[8] The budget document is available on Valley Water website: www.valleywater.org.

Programs to Sustain Water Supply Availability

Valley Water managed water use is a key driver of Valley Water's water revenue. For FY 2020-21, Valley Water managed water use is estimated at 247,000 acre-feet, which is higher than the prior year actual of 231,000 acre-feet. Given the Board's mandatory call for 15 percent conservation relative to 2019 use, water usage for FY 2021-22 is anticipated to be 202,000 acre-feet, about 30,000 acre-feet lower than adopted, and is projected at 192,000 acre-feet for FY 2022-23.

While they decreased in 2021, groundwater levels and storage remain within the normal range of the Water Shortage Contingency Plan. More substantial declines were avoided by obtaining emergency imported water supplies and through expanded conservation programs and messaging to reduce water use. Valley Water was able to meet treated water demands with safe clean drinking water that met or exceeded all regulatory requirements in FY 2020-21. The Board called for a mandatory 33 percent reduction in water use compared to 2013, which is equivalent to 15 percent compared to 2019, and accordingly, Valley Water continues to adjust contracted water deliveries to 23 percent of the originally contracted amount. Contracted water deliveries were further adjusted effective January 1, 2022, to 13 percent of the originally contracted amount based on available imported supplies Valley Water was able to obtain. Water conservation program services and outreach activities were enhanced in response to the current drought with an estimated FY 2022-23 budget of $19.8 million.

The asset management program and maintenance activities continued, including work at Valley Water's water treatment plants, pipelines, and pump stations. Valley Water is also developing three water supply implementation planning projects to provide recommendations on how to ensure existing infrastructure is maintained and updated to meet current and future demands.

To help secure existing imported water supply, Valley Water has been engaged in planning efforts to improve the conveyance of SWP and CVP supplies across the Delta since 2006, recognizing that the current approach of diverting directly from rivers in the vulnerable southern end of the Delta is unsustainable. Plans to improve Delta conveyance evolved from development of the Bay Delta Conservation Plan to the California WaterFix, and finally to Governor Newsom's Delta Conveyance Project. In September 2019, the Board adopted 8 guiding principles for participation in the Delta Conveyance Project, revising the guiding principles previously adopted in October 2017 for the California WaterFix, to ensure that Santa Clara County's interests are represented in Delta Conveyance discussions. The Board anticipates that participation in the project will improve the reliability and water quality of its supplies conveyed through the Delta, and that the project will provide an alternative conveyance pathway that is more protective of Delta fisheries. Valley Water staff are also supporting the state's EcoRestore program, which will contribute towards a sustainable Delta ecosystem.

Valley Water is involved in three Proposition 1 Water Storage Investment Program (WSIP)-funded projects – Pacheco Reservoir Expansion, Sites Reservoir, and Los Vaqueros Reservoir Expansion. Proposition 1 WSIP dedicated $2.7 billion for investment in new water storage projects and the California Water Commission announced conditional funding awards in July of 2018. The planned Valley Water-led Pacheco Reservoir Expansion was conditionally awarded the full $484.5 million requested, which also included an early funding award of $24.2 million; the full award was later

increased to $496 million. Section 3-2 includes updates and additional information on the Pacheco Reservoir Expansion Project. The California Water Commission also conditionally awarded the Sites Reservoir Project $816.4 million (including $40.8 million in early funding) and the Los Vaqueros Reservoir Expansion project $459 million (including $13.7 million in early funding). Both the Sites Reservoir and Los Vaqueros Reservoir Expansion Projects, the latter including the proposed Transfer-Bethany Pipeline conveyance facility, are pending Board of Directors' decision(s) on long-term project involvement by Valley Water.

3.2 FUTURE CAPITAL IMPROVEMENT, OPERATING AND MAINTENANCE REQUIREMENTS

The highest priority work of Valley Water's Water Utility, now and into the future, is to implement a program of activities to ensure reliable water supplies, to protect local surface water and groundwater supplies, and to meet treated water quality standards. This program of operations, maintenance and capital improvement activities will require continued funding from groundwater production charges and other sources of revenue, as described in Section 4 of this report.

The proposed FY 2022–23 operations and capital programs, as shown in Tables 4-5.1 and 4-5.2 respectively, continue to emphasize activities to protect and maintain existing water supplies and assets, and to plan for uncertainties including hydrologic conditions and regulatory restrictions on imported and local supplies. This is consistent with Valley Water's long-term water supply strategy, described in Water Supply Master Plan 2040, to 1) invest in existing supplies and infrastructure, 2) increase water reuse and conservation, and 3) optimize the use of existing supplies and infrastructure. Thus, the proposed programs, if funded accordingly, will enable the Water Utility to provide reliable water supplies in the next year as well as in the future.

The current capital program and expected future capital investments are composed of seismic retrofit, recycled water, surface water storage expansion, Delta conveyance, asset renewal and improvement, Fish and Aquatic Habitat Collaborative Effort (FAHCE), and master planning projects.

The seismic stability evaluations of Anderson, Almaden, Calero, Lenihan, Stevens Creek and Guadalupe Dams have been completed. The four resulting CIP projects (for Anderson, Almaden, Calero and Guadalupe Dams) contain several unique construction elements. In the case of Anderson Dam, Valley Water has identified several separate construction elements that are either budgeted or in the design phase including Cross Valley Pipeline Extension, Coyote Percolation Dam Replacement, Coyote Creek Flood Management Measures, and installation of Chiller Units as Coyote Creek Fish Protection Measures. The seismic stability evaluation for three remaining dams, Coyote, Chesbro and Uvas, was initiated in the fall of 2014; the findings may require seismic retrofit work at these locations in the future. In addition to seismic retrofit improvements at four of the above-listed dams, the conditions of the outlet system, and the adequacy of the spillway and freeboard are being evaluated and will be incorporated into the retrofit work as appropriate.

Programs to Sustain Water Supply Availability

With operating restrictions on several Valley Water dams due to seismic deficiencies or questions about seismic adequacy, there may be impacts to current and future operating budgets, such as the need to purchase additional water because of an inability to capture and utilize local runoff or store imported water.

Valley Water is also looking to make a significant investment to expand local surface water storage. In conjunction with the San Benito County Water District and Pacheco Pass Water District, Valley Water continues planning and design efforts on the expansion of the existing Pacheco Reservoir on the North Fork Pacheco Creek in south-east Santa Clara County. The reservoir is located 60 miles southeast of San José and sits north of Highway 152. The expanded reservoir would increase the reservoir's capacity from 5,500 acre-feet to up to 140,000 acre-feet, enough water to supply 1.4 million residents for a year. The planned Pacheco Reservoir Expansion would provide a number of benefits including reducing the frequency and severity of water shortages, increased emergency water supplies, improved water quality, ecosystems benefits[9].

In September 2019, Valley Water adopted guiding principles for participation in the Delta Conveyance Project and on November 17, 2020, Valley Water Board of Directors adopted a resolution to approve a provisional participation percentage in the Delta Conveyance Project of 2.73 percent and authorize the CEO to increase Valley Water's provisional participation percentage up to a total of 3.23 percent if additional shares become available. Additional shares became available, and Valley Water increased its provisional participation rate to 3.23 percent.

The Governor's Delta Conveyance Project has the potential to improve Valley Water's water supply reliability while improving the flexibility of our infrastructure to respond to environmental conditions in the Delta to reduce fishery impacts. Over the long term, the project could improve water supply reliability in the face of climate change effects, including salinity intrusion from levee failures and sea level rise, improve access to transfer supplies, improve water quality, and enhance the benefit of storage projects. Continued participation in the Delta Conveyance project represents a potential substantial future investment for Valley Water.

Maintaining existing assets provides the foundation for meeting current and future supply needs. The Rinconada Water Treatment Plant reliability improvements and other aging infrastructure renewal projects comprise the bulk of planned expenditures in the current capital program. Fiscal Year 2022-23 will be year 6 of Valley Water's 10-Year Pipeline Inspection and Rehabilitation Program. This program assesses condition and makes necessary repairs to critical raw and treated water pipelines each year. Some sections of one of Valley Water's most critical supply pipelines, the Almaden Valley Pipeline, has reached end of life and therefore a replacement project is included in the CIP. Other infrastructure such as the Vasona Pump Station is original and overdue for a major upgrade. As infrastructure continues to age, these major facility upgrades will continue through the future.

[9] The Maximum Conditional Eligibility Determination (MCED) funding award of $484.5 million in 2018 was increased to $496.6 million in 2021 by the CWC as available funds were redistributed to all remaining eligible projects.

Programs to Sustain Water Supply Availability

Some highlights of the proposed FY 2022–23 capital program are listed next.

Storage:

- Seismic retrofit of Anderson Dam
- Pacheco Reservoir Expansion

Transmission:

- Raw and treated water pipeline inspection and rehabilitation
- Vasona Pumping Plant Upgrades
- Almaden Valley Pipeline Replacement

Water Treatment Plants:

- Continued construction for the comprehensive upgrade of the Rinconada Water Treatment Plant processes to ensure plant reliability for the next 50 years; this will include the addition of fluoridation facilities.
- Rinconada Water Treatment Plant Residuals Remediation
- Santa Teresa Water Treatment Plant Filter Media Replacement

Recycled and Purified Water:

- The implementation of the CoRe Plan will identify potential projects to produce up to 24,000 acre-feet per year of purified water for direct and indirect potable reuse (IPR).
- Expansion of the recycled water pipeline system in Gilroy to increase non-potable water reuse by 2,000 to 3,000 acre-feet per year by 2040.

Detailed cost projections for the preliminary FY 2023–27 Capital Improvement Program (CIP) can be found in Section 4-5.

Additional Future Capital and O&M Requirements

Additional programs, such as the Fish and Aquatic Habitat Collaborative Effort (FAHCE) and master planning efforts may require substantial future investment, as described below.

FAHCE

The Fish and Aquatic Habitat Collaborative Effort (FAHCE) was established to address a water rights complaint after the 1996 listing of steelhead trout as a threatened species under Federal Endangered Species Act (ESA)[10] by National Marine Fisheries Service (NMFS). In the future, this may require changes to operation and maintenance of water diversions in the Guadalupe River, Coyote Creek,

[10] The Endangered Species Act (ESA) is a federal law to ensure the conservation of threatened and endangered plants and animals and the habitats in which they are found. The ESA prohibits "take" of listed species through direct harm or destruction or adverse modification of designated critical habitat of such species. In the 1982 ESA amendments, Congress authorized the federal ESA implementing agencies, U.S. Fish and Wildlife Service and National Marine Fisheries Service, through the Secretary of the Interior, to issue permits for the "incidental take" of listed species before permittees could proceed with an activity that is legal in all other respects but would result in the incidental taking of a listed species. Prior to issuance of "take" permits, permit applicants are required to design, implement, and secure funding for a conservation plan that minimizes and mitigates harm to the impacted species during the proposed project. That plan is commonly called a Habitat Conservation Plan (HCP). HCPs are legally binding agreements between the U.S. Secretary of the Interior or Commerce and the permit holder.

The California Endangered Species Act (CESA) is the state equivalent of the federal ESA. It states that all native species and habitats of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. CESA also allows for take incidental to otherwise lawful development projects. The state Department of Fish and Wildlife is the CESA implementing agency, authorized to issue permits and memorandum of understanding.

and Stevens Creek watersheds as well as development and implementation of a Fish Habitat Restoration Plan (FHRP). To support environmental permitting for the Anderson Dam Seismic Retrofit (ADSR) Project, restoration measures for Coyote Creek watershed originally contained in the FHRP will be transferred to the ADSR Project's environmental review and permitting process.

Resolution of the water rights complaint and implementation of the FHRP and the 2003 Settlement Agreement will require a large financial commitment on the part of Valley Water for construction, operation and maintenance of infrastructure that improve habitat for fish in creeks located in the Three Creeks. Costs have been estimated but have not been completely integrated into the groundwater production charge projections, pending resolution of the water rights complaint following the completion of the FHRP and EIR.

Water Supply Infrastructure Implementation Projects

To address aging infrastructure and meet future reliability goals, the Valley Water Board of Directors approved three new planning projects to define the long-term needs and ensure the reliability of Valley Water's water supply infrastructure. Under the umbrella of the Water Supply Master Plan 2040, the following projects are intended to identify capital project needs under these three categories of existing infrastructure:

Water Treatment Plant Implementation Project

This project will develop a comprehensive 30-year implementation plan to identify projects to repair, replace, and/or upgrade the infrastructure at our water treatment plants and address the increasingly stringent water quality regulations.

Supervisory Control and Data Acquisition (SCADA) Implementation Project

This project will develop a comprehensive implementation plan, including the definition of technology standards, to upgrade the Water Utility SCADA systems over the next 15 years, as they age and become obsolete.

Distribution System Implementation Project

This project will develop a comprehensive 30-year implementation plan to identify improvements to Valley Water's raw and treated water distribution pipelines and pump stations, to meet current demands and future growth, as well as ability to handle emergencies. The project will first aim to optimize our raw and treated water distribution systems operations based on both retailer needs and abilities, and then the project will recommend reliability improvement projects.

4-1 INTRODUCTION

This section summarizes the maximum proposed water charges for fiscal year (FY) 2022–23 and the multi-year financial analysis that serves as the foundation for those water charges in each zone. The major sources of revenue for the Water Utility are from the imposition of charges on groundwater production and from contracts for the sale of treated surface water produced by its three treatment plants. Valley Water also receives revenue from surface water charges, recycled water charges, property tax, interest earnings, grants, capital reimbursements and other miscellaneous sources. Valley Water assesses the need for groundwater production and other water charges annually and, in accordance with state law, prepares this report to describe the activities undertaken to provide a water supply, along with the associated capital, operating and maintenance requirements.

The Rate Setting Process

According to Section 26.3 of Valley Water's founding legislation (District Act), proceeds from groundwater production charges can be used for the following purposes:

1) Pay for construction, maintenance, and operation of imported water facilities
2) Pay for imported water purchases
3) Pay for constructing, maintaining, and operating facilities which will conserve or distribute water including facilities for groundwater recharge, surface distribution, and purification and treatment
4) Pay for debt incurred for purposes 1, 2 and 3

The work of Valley Water is divided into projects. Every project has a detailed description including objectives, milestones, and an estimate of resources needed to deliver the project. To ensure compliance with the District Act, each project manager must justify whether or not groundwater production charges can be used to pay for the activities associated with their project. The financial analysis presented in this report is based on the financial forecasts for these vetted projects.

This year's groundwater production and surface water charge setting process will be conducted consistent with the District Act, and Board Resolutions 99-21 and 12-10[11]. In late 2017, the State Supreme Court found that Proposition 218 is not applicable to groundwater production charges. Procedural requirements for property related fees and charges under Proposition 218 like holding a public hearing and noticing well owners are consistent with the District Act and are continuing. The surface water charge setting process will mirror the process described in Proposition 218 for property-related fees for water services. Both the Groundwater and the Surface Water rate setting process are consistent with Proposition 26 requirements that the groundwater production and

[11] Resolutions 99-21 and 12-10 can be found at *https://www.valleywater.org/ProposedWaterCharges*.

surface water charges are no more than necessary to cover reasonable costs and bear a fair or reasonable relationship to the rate payor's burdens on or benefits received from the groundwater and surface water programs.

FY 2022-23 will be the eleventh year that a protest procedure will be conducted for surface water users. Last year's formal protest procedure for the surface water charge setting process resulted in zero protests. As in the past, Valley Water's Board of Directors (Board) will continue to hold public hearings and seek input from its advisory committees and the public before rendering a final decision on groundwater production and surface water charges for FY 2022–23.

In late 2009, Valley Water engaged Raftelis Financial Consultants, Inc. (RFC) to independently review Valley Water's cost of service and rate setting methodology used to calculate groundwater production charges for FY 2010–11. At that time, RFC had conducted over 600 rate and financial planning studies for water and wastewater utilities across the country. Specifically, RFC reviewed the cost of service and financial planning model developed by Valley Water to calculate groundwater production charges for FY 2010–11. RFC reviewed Valley Water's rate setting methodology for consistency with industry standards, best practices, and legal considerations such as Proposition 218, the District Act, and Resolution 99-21. The methodology used to calculate groundwater production charges for FY 2010–11 is detailed in RFC's report titled "Review of the Santa Clara Valley District's Cost of Service and Rate Setting Methodology for Setting FY 2011 Groundwater Production Charges"[12]. The report was completed in March 2010 and demonstrates that Valley Water developed groundwater production charges and other charges consistent with cost-of-service principles and legal considerations including Proposition 218, the District Act, and Resolution 99-21. Valley Water continues to use the same cost of service methodology and will do so for the FY 2022–23 rate setting process.

In 2010, Valley Water engaged RFC and the water resources engineering firms of Hydrometrics Water Resources and Carollo Engineers to further analyze and quantify the conjunctive use benefit of treated water to groundwater and surface water customers. In addition, RFC analyzed the benefits of agricultural water usage to M&I users. The report titled "Report Documenting the Reasonableness of the Conjunctive Use Benefit of Treated Water to Groundwater and Surface Water Customers and the Benefit of Agricultural Customers to Municipal and Industrial Customers" was completed in February 2011 and provides further support and justification for Valley Water's cost of service methodology.

In 2014, Valley Water engaged RFC once again to analyze and quantify the conjunctive use benefit of surface and recycled water to groundwater customers. The report titled "Report Documenting the Reasonableness of the Conjunctive Use Benefit of Surface Water and Recycled Water to Groundwater Customers" was completed in February 2015 and provides further support and justification for Valley Water's cost of service methodology.

[12] The RFC reports, dated March 5, 2010, February 17, 2011, February 27, 2015, and February 28, 2020 can be found at: *https://www.valleywater.org/ProposedWaterCharges*.

In 2020, Valley Water completed a scientific study of its groundwater benefit zones. Based on a comprehensive evaluation of geological studies, local groundwater data, and the services Valley Water provides, new metes and bounds were established to better reflect services and benefits received by well users. The boundary for the North County groundwater zone (W-2) was slightly modified and the South County groundwater zone (W-5) boundary was modified with two new zones added. South County groundwater benefit zones include Zone W-5 which overlays the Llagas Subbasin; Zone W-7, which encompasses the Coyote Valley; and Zone W-8 which encompasses areas in the foothills southeast of Uvas and Chesbro Reservoirs. More information about the Groundwater Benefit Zone study can be found online at *valleywater.org/gwbenefits*.

Overview of Customer Classes and Charges

As the primary wholesale water provider for Santa Clara County, Valley Water serves 4 customer classes including groundwater users, treated water users, surface water users and recycled water users. Resolution 99-21 guides staff in the development of the overall pricing structure based on principles established in 1971. The general approach is to charge the recipients of the various benefits for the benefits received. More specifically, pricing is structured to manage surface water, groundwater supplies and recycled water conjunctively to prevent the over use or under use of the groundwater basin. Consequently, staff is very careful to recommend pricing for groundwater production charges, treated water charges, surface water charges and recycled water charges that work in concert to achieve the effective use of available resources (as supported by the 2010 RFC study).

Groundwater users pump water from the ground that is both naturally and artificially recharged into the groundwater basin. The groundwater production charge recoups Valley Water's costs to protect and augment this source of water, as outlined in the District Act.

Treated water users are comprised of 7 retail water companies that take treated surface water from one of Valley Water's 3 treatment plants and sell it to their end user customers. The water comes from locally captured runoff or water imported into the county.

Valley Water recoups the cost of providing treated water by charging users the basic user charge, which is set equivalent to the groundwater production charge, and a treated water surcharge. The provision of treated water helps preserve the groundwater basin and therefore benefits groundwater users. This fact provides the rationale for setting the basic user charge equal to the groundwater production charge in accordance with cost-of-service principles as justified by the 2011 RFC study. The treated water surcharge is set by Board policy at an amount that promotes the effective use of available water resources.

Surface water users are those users permitted by Valley Water to tap raw district-managed surface water from creeks, streams, or raw water pipelines. To the extent Valley Water releases stored water from its local reservoirs, Valley Water considers this to be surface water, which is not subject to

diversion by third parties. Local supplies and imported water are made available to Valley Water surface water permittees.

Surface water users pay the basic user charge, which is set equivalent to the groundwater production charge, plus a surface water master charge. The basic user charge helps pay for the cost to manage and augment surface water supplies and is set equal to the groundwater production charge, as justified by the 2015 RFC study, because surface water is considered in-lieu groundwater usage. The surface water master charge pays for costs that are specific to surface water users only, including the work to operate surface water turnouts and maintain surface water accounts.

Recycled water users are those users who take treated wastewater for non-potable purposes, such as irrigation and industrial uses. Recycled water charges are established at rates that maximize cost recovery while providing an economic incentive to use recycled water. The provision of recycled water helps preserve the groundwater basin and therefore benefits groundwater users. Consequently, groundwater users pay for recycled water to the extent that recycled water charges do not achieve full cost recovery, as justified by the 2015 RFC study.

Agricultural water users are a subset of the groundwater, surface water and recycled water customer classes. Section 26.1 of the District Act defines agricultural water use as "water primarily used in the commercial production of agricultural crops or livestock." Agricultural charges are limited to a maximum of 25 percent of non-agricultural charges per the District Act. Board policy further limits agricultural charges to no more than 10 percent of non-agricultural charges in order to help preserve open space. Non-rate related revenue is used to offset lost agricultural water revenue for each customer class and is referred to as the Open Space Credit.

Non-agricultural users (also referred to as Municipal and Industrial users) are a subset of all 4 customer classes and consist of all water use other than agricultural. Non-agricultural water use charges are established for each customer class as described in the preceding paragraphs.

4-2 WATER CHARGE RECOMMENDATIONS FOR FISCAL YEAR 2022–23

Last year, FY 2021-22, the Board increased groundwater production charges. In the North County Zone W-2, the Board adopted a groundwater production charge of $1,499 per acre-foot for non-agricultural water and $1,614 per acre-foot for contract treated water. In the South County Zone W-5, the Board adopted a $488 per acre-foot groundwater production charge for non-agricultural water. In the South County Zone W-7, the Board adopted a $528.50 per acre-foot groundwater production charge for non-agricultural water. In the South County Zone W-8, the Board adopted a $341.50 per acre-foot groundwater production charge for non-agricultural water. In all zones, the Board adopted a $34.15 per acre-foot groundwater production charge for agricultural water.

Financial Outlook of Water Utility System

For North County Zone W-2, staff has developed a groundwater production charge projection based on guidance from the Board of Directors. For FY 2022-23, the proposed maximum increase is driven by multiple factors: 1) the need to purchase emergency imported water given the current drought conditions; 2) to advance the Anderson Dam Seismic Retrofit, which will improve public safety and restore operational capacity; 3) to fund key baseline projects including the Rinconada WTP reliability improvement and 10-year pipeline rehabilitation program; 4) to advance the Pacheco Reservoir Expansion, which would provide additional water storage capacity; and 5) to pay for general inflation impacting the nation.

For South County Zones (W-5, W-7 and W-8) the FY 2022-23 proposed maximum groundwater production charges are driven by: 1) the need to purchase emergency imported water given the current drought conditions; 2) to advance the Anderson Dam Seismic Retrofit, which will improve public safety and restore operational capacity; 3) to fund recycled water pipeline expansion, which would help preserve potable water supplies; 4) to advance the Pacheco Reservoir Expansion, which would provide additional water storage capacity; and 5) to pay for general inflation impacting the nation.

The proposed maximum increase for South County Zone W-7 is higher than South County Zone W-5. This is primarily driven by the fact that 56 percent of the water managed by Valley Water (that is delivered to South County) associated with the Anderson/Coyote reservoir system, CVP imported water, and the planned expanded Pacheco Reservoir, would be used to recharge the groundwater basin underlying Zone W-7 based on historical data, while only 44 percent of that water would be used to recharge Zone W-5. Cost allocations to the zones reflect the distribution of water to recharge those zones. From a water usage perspective, Zone W-7 accounts for 22 percent of the groundwater pumping in South County, while Zone W-5 accounts for 76 percent. Since the percentage of cost being allocated to each zone differs from the percentage of water usage attributed to each zone, it follows that the groundwater charge per acre-foot required for cost recovery would be higher for Zone W-7 than Zone W-5.

Zone W-8 accounts for the remaining 2 percent of groundwater pumping in South County. Zone W-8 does not benefit from the Anderson/Coyote reservoir system, CVP imported water, or the planned expanded Pacheco Reservoir, nor does it benefit from the recycled water facilities operated by Valley Water in partnership with the South County Regional Wastewater Authority located in Gilroy. Consequently, the groundwater charge projection for Zone W-8 is significantly lower than both Zone W-5 and Zone W-7.

Valley Water staff assume that the Board's call for 15 percent water use reduction compared to 2019 water use will be achieved in FY 2022-23, resulting in a water usage projection of around 192,000 AF. This projection is 41,000 AF lower than prior projections for FY 2022–23 and represents a 33 percent reduction relative to Calendar Year 2013.

In general, lower water use relative to historical usage patterns translates to reduced revenue for the Water Utility and therefore results in upward pressure on water rates.

Financial Outlook of Water Utility System

The draft FY 2023–27 Capital Improvement Plan (CIP) totals approximately $5.1 billion for the Water Utility over the next 10 years. Significant investments planned for FY 2022–23 include:

- $167 million for Dam Seismic retrofits and improvements at Anderson
- $31 million for the planned Pacheco Reservoir Expansion
- $24 million for the Rinconada WTP Reliability Improvement & Residuals Remediation
- $15 million for various pipeline rehabilitation projects
- $12 million for CVP capital payments (not related to the Delta Conveyance project)

Valley Water must continue investing significant capital dollars into repairing and rehabilitating the infrastructure required to deliver safe, reliable drinking water to Silicon Valley residents and businesses. Valley Water is projecting rate increases over the next 10 years in order to invest in several key areas:

- $2.65 billion over the next 10 years for repair, rehabilitation, and seismic retrofitting of the system behind your water supply, including treatment plants, pipelines, pump stations, dams, and recharge ponds.
- $2.4 billion for the planned Pacheco Reservoir Expansion, which would help provide local water supply reliability for the future (cost would be offset by a $496 million Proposition 1 award, up to 49 percent of total project cost leveraging WIFIA loans, and 35 percent of total project cost funded through partnerships with other agencies).
- $700 million for the Purified Water Program which would develop 9,000 AF to 12,000 AF of new drought resilient water supply, to be designed, built, operated, and financed via a Public-Private Partnership (P3).
- $49 million over the next 10 years to solve the statewide issue of the Bay Delta, where 40 percent of our water supply travels through. A catastrophic event in the Delta could interrupt this vital supply of water to Santa Clara County for up to two years or more.

The increase in water charges for FY 2022–23 will bring in revenue required to pay for critical investments in the water supply infrastructure, investments in future supplies, and rising operating costs. The effective management of the region's water supply system includes securing imported water supplies, storing surface water in local reservoirs, replenishment and protection of the groundwater basin, purification at local water treatment plants, testing for consistent water quality, transport, and delivery of water to local water providers, and conservation programs.

Given the financial picture summarized above, staff proposes the following water charges for FY 2022– 23:

For the North County Zone W-2, staff proposes up to a 15 percent increase, or a $1,724 per acre-foot groundwater production charge for non-agricultural water; a 13.9 percent increase, or $1,839 per acre-foot for contract treated water; and a 13.2 percent increase or, $1,924 per acre-foot for non-contract treated water. The average household would experience an increase in their monthly bill of $7.75 or about 26 cents a day. Customers may also experience additional charge increases enacted by their retail water provider.

For the South County Zone W-5, staff proposes up to a 5.2 percent increase, or a $513 per acre-foot groundwater production charge for non-agricultural water. The average household would experience an increase in their monthly bill of $0.86 or about 3 cents per day.
For the South County Zone W-7, staff proposes up to a 10.3 percent increase, or a $582.50 per acre-foot groundwater production charge for non-agricultural water. The average household would experience an increase in their monthly bill of $1.86 or about 6 cents per day.

For the South County Zone W-8, staff proposes up to an 8 percent increase, or a $368.50 per acre-foot groundwater production charge for non-agricultural water. The average household would experience an increase in their monthly bill of $0.93 or about 3 cents per day.

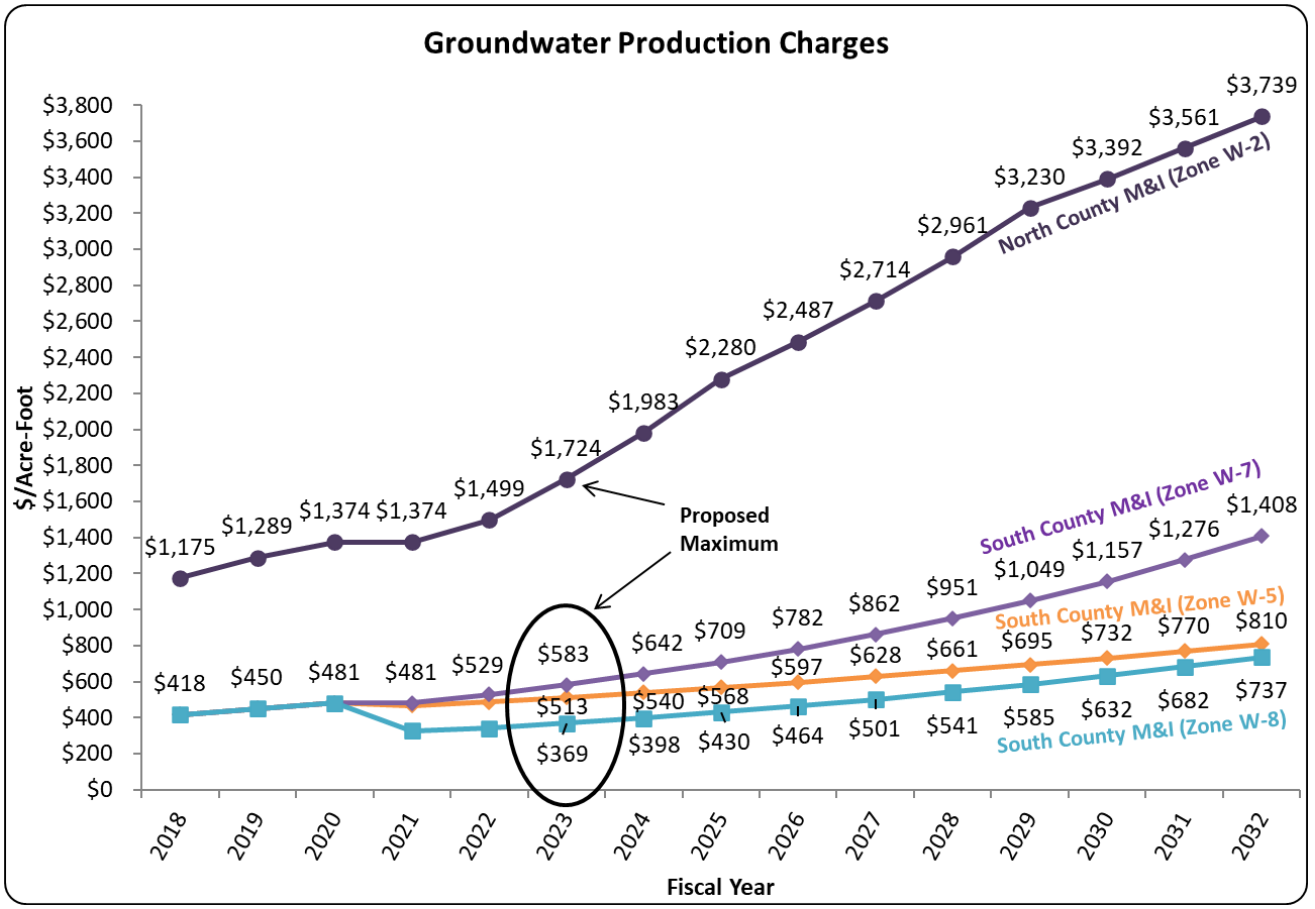
The proposed maximum agricultural groundwater production charge in any groundwater benefit zone is $36.85 per acre-foot, which would be an 8 percent increase, or roughly a $0.23 increase per month per acre for the average agricultural water user. The proposed maximum agricultural groundwater production charge is calculated at 10 percent of the lowest M&I charge, which is Zone W-8.

Staff recommends increasing the surface water master charge up to 15 percent, to $47.10 per acre-foot, to align revenues with the costs related to managing, operating, and billing for surface water diversions.

For recycled water, staff recommends increasing the M&I charge up to 5.3 percent to $493 per acre-foot. For agricultural recycled water, the proposed maximum is a 4.4 percent increase to $64.25 per acre-foot. These recommendations would maximize cost recovery while concurrently providing an economic incentive to use recycled water.

Figure 4-2.1 illustrates the multi-year groundwater production charge projection, which represents staff's proposed maximum groundwater charges for FY 2022–23 and a future projection based on the assumption that Valley Water will continue to provide the same level of service budgeted in FY 2022–23. Potential future uncertainties could result in higher costs or the identification of additional capital or operations projects, which would result in a higher groundwater charge projection than that shown.

Figure 4-2.1 Ten Year Projection



Note: Groundwater production charges shown are rounded to the nearest dollar.

Table 4-2.1 shows groundwater production and other charges in fiscal years 2020–21 and 2021–22. The final column contains the proposed water charges for FY 2022–23, which are in accordance with the pricing policy described in Resolution 99-21.

Table 4-2.1 Summary of Charges (Dollars Per Acre-Foot, $/AF)

Summary of Charges (Dollars Per Acre-Foot, $/AF)	FY 2020-21	FY 2021-22	Proposed Maximum FY 2022-23
Zone W-2 (North County)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	1,374.00	1,499.00	1,724.00
Agricultural	28.86	34.15	36.85
Surface Water Charge			
Surface Water Master Charge	37.50	40.90	47.10
Total Surface Water, Municipal & Industrial*	1,411.50	1,539.90	1,771.10
Total Surface Water, Agricultural*	66.36	75.05	83.95
Treated Water Charges			
Contract Surcharge	100.00	115.00	115.00
Total Treated Water Contract Charge**	1,474.00	1,614.00	1,839.00
Non-Contract Surcharge	200.00	200.00	200.00
Total Treated Water Non-Contract Charge***	1,574.00	1,699.00	1,924.00
Zone W-5 (Llagas Subbasin)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	467.00	488.00	513.00
Agricultural	28.86	34.15	36.85
Surface Water Charge			
Surface Water Master Charge	37.50	40.90	47.10
Total Surface Water, Municipal & Industrial*	504.50	528.90	560.10
Total Surface Water, Agricultural*	66.36	75.05	83.95
Recycled Water Charges			
Municipal & Industrial	447.00	468.00	493.00
Agricultural	56.26	61.55	64.25
Zone W-7 (Coyote Valley)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	481.00	528.50	582.50
Agricultural	28.86	34.15	36.85
Surface Water Charge			
Surface Water Master Charge	37.50	40.90	47.10
Total Surface Water, Municipal & Industrial*	518.50	569.40	629.60
Total Surface Water, Agricultural*	66.36	75.05	83.95
Zone W-8 (Uvas/Chesbro)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	327.00	341.50	368.50
Agricultural	28.86	34.15	36.85
Surface Water Charge			
Surface Water Master Charge	37.50	40.90	47.10
Total Surface Water, Municipal & Industrial*	364.50	382.40	415.60
Total Surface Water, Agricultural*	66.36	75.05	83.95

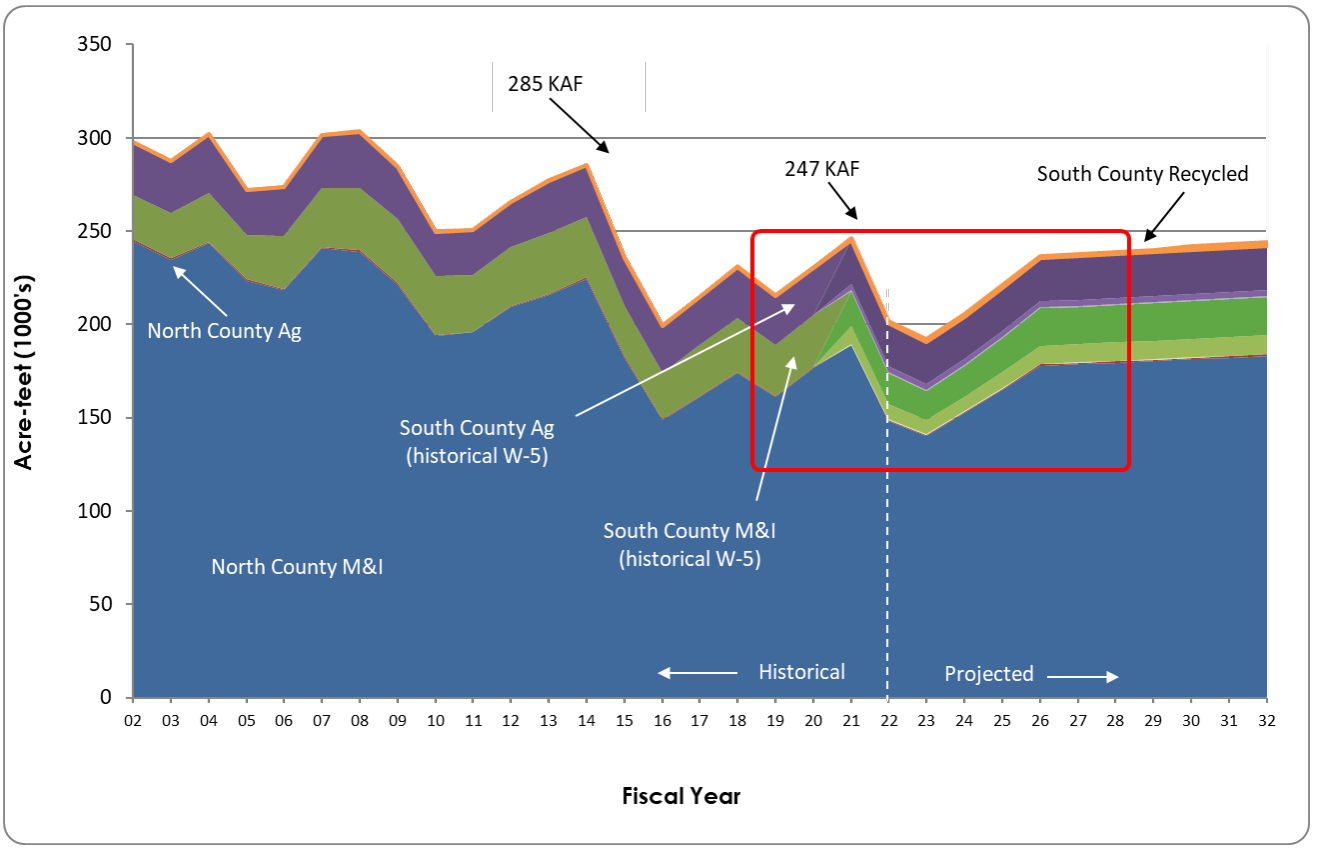
*Note: The total surface water charge is the sum of the basic user charge plus the water master charge

**Note: The total treated water contract charge is the sum of the basic user charge plus the contract surcharge

***Note: The total treated water non-contract charge is the sum of the basic user charge plus the non-contract surcharge

Figure 4-2.2a illustrates historical and projected water use countywide, which is a key driver of water charge related revenue. Water usage in FY 2020–21 was estimated at approximately 247,000 AF, which is roughly 17,000 AF higher than budgeted and is about a 15 percent reduction versus Calendar Year 2013 water usage of 286,000 AF. For the current year, FY 2021-22, staff estimates that water usage will be approximately 202,000 AF, which is 30,000 AF lower than the FY 2021-22 budget due to current drought conditions and working towards the Board's 15 percent call for conservation. For FY 2022–23, staff is assuming water usage projection of 192,000 AF which reflects the Board's 15 percent call for conservation being achieved in FY 2022-23; this is about a 33 percent reduction relative to Calendar Year 2013.

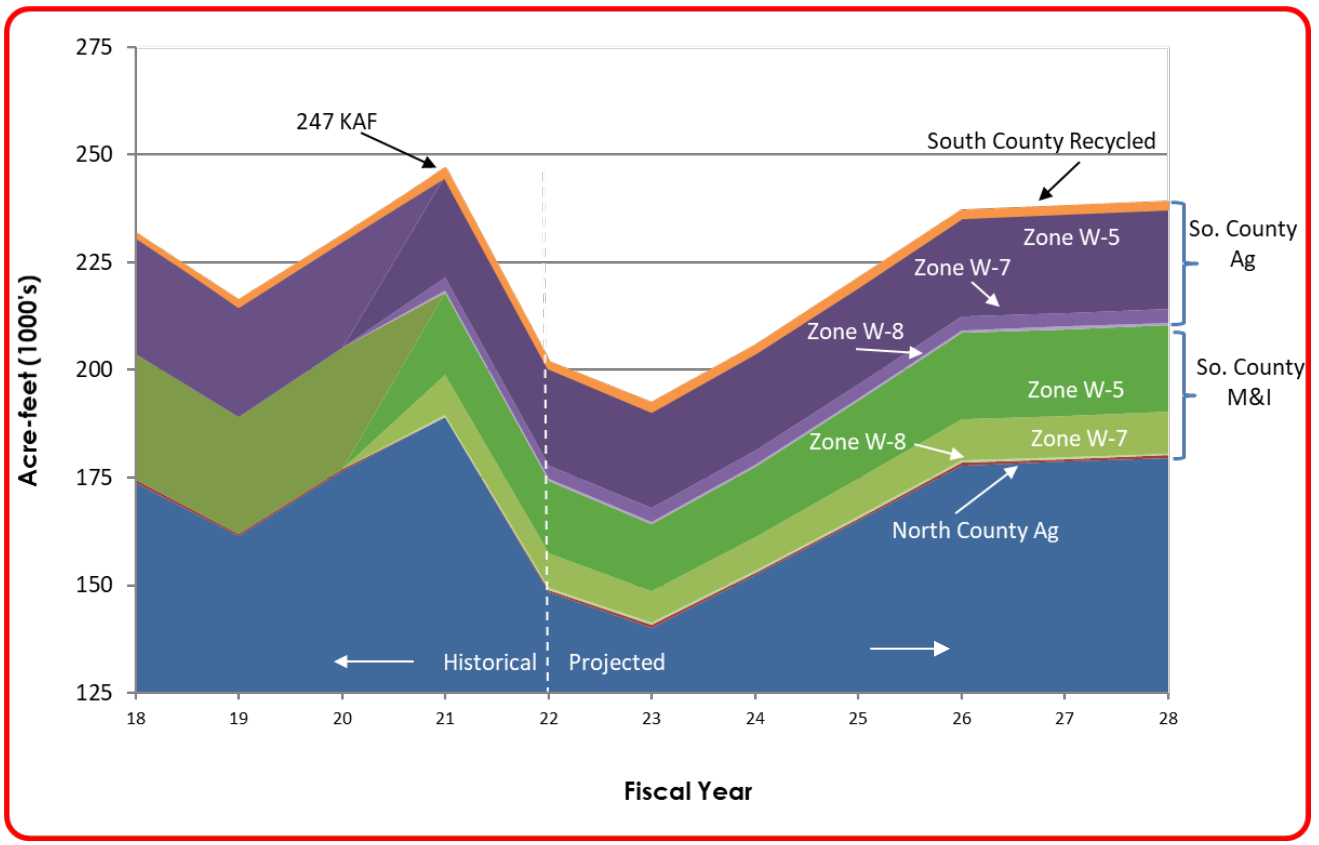
Figure 4-2.2a Historical and Projected District-Managed Water Use



Represents the portion of the graph shown in Figure 4-2.2b

Figure 4-2.2b illustrates the transition from the historical 2 groundwater benefit zones to 4 groundwater benefit zones. Effective July 1, 2020, the existing groundwater benefit zones W-2 and W-5 were modified, and two new zones were created: W-7 (Coyote Valley) and W-8 (below Uvas and Chesbro Reservoirs). New metes and bounds (the survey description that defines the boundaries of the zones) were developed in accordance with Santa Clara Valley Water District Act requirements.

Figure 4-2.2b Close up of Water Use Projection for Zones



4-3 FINANCIAL OVERVIEW OF VALLEY WATER

Valley Water uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. Fund accounting allows government resources to be segregated and accounted for according to their intended purposes. Accounts related to activities of the Water Utility are segregated into the Water Utility Funds comprised of the Water Utility Enterprise Fund and the State Water Project (SWP) Fund. For the Water Utility Enterprise Fund, revenue accounts include groundwater production, treated water, surface water, recycled water, property taxes, interest earnings, reimbursements, grants and other. Cost accounts include both direct and indirect or overhead costs associated with Water Utility projects and activities. The SWP Fund accounts specifically for SWP tax revenue and SWP contractual costs (note that SWP tax revenue can only be spent on SWP contractual costs). Table 4-3.1 shows an overview of the funds at Valley Water including the Water Utility Funds and the estimated revenues, costs, and reserves for FY 2022–23 for each fund. Throughout this report, the term "Water Utility" or "Water Utility Enterprise" refers to the combination of the Water Utility Enterprise Fund and the SWP Fund.

Table 4-3.1 FY 2022–23 Projected Funds Analysis

	Water Utility Funds				
	Water Utility	State Water	Safe, Clean Water	Watershed	Administration
(Millions $)	Enterprise Fund	Project Fund	Fund	Funds	Funds
Revenue	287.0	28.7	141.2	137.6	10.7
Interfund Transfer	21.1	-	(0.7)	(28.1)	7.7
Operations Costs	(237.3)	(28.3)	(26.5)	(75.9)	(118.8)
Debt Service	(60.2)	-	(10.3)	-	(0.5)
Capital	(340.8)	-	(134.2)	(40.6)	(13.4)
Debt Proceeds	269.0	-	123.0	-	-
Intra-District Reimbursements[1]	-	-	-	-	113.5
Balance[2]	**(61.2)**	**0.5**	**92.4**	**(7.1)**	**(0.7)**
Reserves					
Restricted	71.7	-	108.3	-	-
Committed	93.8	-	-	106.8	12.6
Designated Liability	-	-	-	-	11.7
Total Reserves	**165.6**	**-**	**108.3**	**106.8**	**24.3**

[1] Intra-District Reimbursements represent overhead costs that have been allocated to the Water Utility, Safe, Clean Water, and Watersheds (included in the operations and capital costs for those funds)

[2] Positive balances indicate funds flowing into reserves. Negative balances indicate funds flowing out of reserves.

The Safe, Clean Water Fund accounts for the program that voters renewed in November 2020 for the purpose of addressing multiple community priorities. These priorities are ensuring a safe, reliable water supply; reducing toxins, hazards, and contaminants in our waterways, protecting our water supply and dams from earthquakes and other natural disasters; restoring wildlife habitat and providing open space; providing flood protection to homes, businesses, schools, streets, and highways; and supporting public health and public safety for our community. The primary source of revenue for this fund is a special parcel tax. This fund supports several projects that benefit not only the community at large but also the Water Utility including hazardous materials management and response, water conservation rebates and programs, and stormwater runoff management. Most notably this fund will contribute $55 million toward the Anderson Dam Seismic Retrofit project in the form of a reimbursement to the Water Utility Enterprise Fund. It will also apportion some of the revenue towards the Treated Water Pipeline Reliability and the Pacheco Reservoir Expansion projects. For more information on the Safe, Clean Water program please visit *valleywater.org*.

The Watershed Funds are a segregated grouping of funds with separate funding sources (including Benefit Assessments and 1 percent ad valorem property taxes) for the purpose of providing flood protection and watershed management in Santa Clara County.

The Administration Funds include the General Fund, Fleet Fund, Information Technology Fund and Risk Fund to account for all revenues and expenditures necessary to carry out the basic governmental activities of Valley Water that are not accounted for through other funds. Administration Funds expenditures that are not offset by Administration Funds revenues are allocated to the Water Utility, Safe, Clean Water, and Watershed funds through an overhead rate at the project level.

4-4 WATER UTILITY FINANCES FOR FISCAL YEARS 2020–21 & 2021–22

Fiscal Year 2020–21

Actual overall revenue for FY 2020–21 was $29.2 million higher than the adopted budget of $305.4 million. Higher water usage resulted in $28.6 million higher operating revenues that was partially offset by $5.0 million lower capital reimbursement revenue. In addition, property tax revenues were $4.0 million higher and interest earnings, intergovernmental services, and other revenues were $1.6 million higher.

Actual operations outlays came in at $220.9 million and were $28.1 million lower than the adopted budget. The savings were driven by $9.4 million lower debt service due to postponing planned debt issuance because of slower than anticipated capital spending, and $18.7 million operations cost savings due primarily to lower than anticipated spending on water purchases and budgetary savings driven by the pandemic for a second year.

Unspent capital budget was carried forward to FY 2022–23 consistent with accounting practices.

Fiscal Year 2021–22

Staff estimates that FY 2021–22 revenue will come in $44.3 million under the adopted budget revenue of $335.9 million driven by reduced water use and conservation. Operations and capital costs are anticipated to come in at or below budget. Staff anticipates that discretionary reserve levels will come in below budget at year end due to current drought conditions and the need to leverage supplemental water reserves to purchase emergency water supplies.

4-5 OVERVIEW OF OPERATING AND LONG-TERM CAPITAL PLANS

To develop a charge structure that will support planned work, staff analyzes the immediate needs of Valley Water as well as anticipated requirements in the years to come.

Operations Costs

Operations costs are projected to increase at an average of 4.2 percent per year over the next ten years. The growth is largely driven by 1) the near-term impact of emergency water supply purchases due to current drought conditions; 2) the ramp up of payments associated with the Delta Conveyance Project; and 3) the beginning of operations of the Expedited Purified Water Project in FY 2027-28, which would produce 9,000 to 12,000 AF of new water supply. Operations cost increases are also driven by anticipated inflation including cost increases associated with employee salaries and benefits. Table 4-5.1 shows Valley Water's Water Utility operating program for FY 2020–21 (actuals), FY 2021–22 (estimated adjusted), and FY 2022–23 (projected). Water Utility staff continually strive to implement a program that ensures that treated water quality standards are met and that water supplies are reliable to meet current and future demand.

Table 4-5.1 Operating Budget Summary

		Thousands $			
Cost Center	Ends Policy	Actual FY 21	Adjusted FY 22	Projection FY 23	Description of Cost Centers and Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	108,523	135,964	162,611	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs. Activities include: groundwater level & quality monitoring; groundwater modeling; dams and reservoir operations & maintenance; imported water supply management; long-term Delta issues resolution; operations and maintenance of San Felipe Reaches 1-3, including mechanical and electrical; operations planning; water rights protection; Urban Water Management Plan; administration of recycled water agreements, technical studies; water conservation technical assistance, outreach and education; environmental planning & compliance; well permitting and destruction; Silicon Valley Advanced Water Purification Center operations and maintenance; and habitat conservation and mitigation commitments.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	15,457	17,052	19,261	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems. Activities include: operations and maintenance of recharge ponds, canals, pipelines & diversions including vegetation management; operations and maintenance of raw water distribution system, including mechanical and electrical; raw water corrosion control; environmental compliance support.
Water Treatment and Treated Water Transmission & Distribution	E-2.3 Reliable High Quality Water is Delivered	46,485	48,163	54,582	These cost centers contain all expenditures associated with the treatment of water at the Rinconada, Penitencia and Santa Teresa Water Treatment Plants, as well as those expenditures related to the distribution of treated water to retail customers and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts. Activities include: operations and maintenance of 3 water treatment plants; Water District laboratory operations; water quality planning, testing, research, and reporting; operations and maintenance of treated water transmission and distribution system; and recycled water transmission and distribution general maintenance.
Administration & General	Support Services	27,160	34,000	29,135	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Activities include: asset protection evaluation and planning; integrated regional water management plan; water system computer modeling; urban runoff pollution prevention; general & division management; performance measures; financial support & water charge setting; customer relations; health and safety training; billing; data maintenance; auditing; meter reading, testing, repair, installation, backflow prevention; emergency services; warehouse and equipment services; and real estate services.
	Total Program Requirements	**197,625**	**235,179**	**265,589**	

Capital Improvement Program

Valley Water constructs, operates, and maintains reservoirs, pipelines, recharge facilities, and water treatment plants that are needed to achieve the Board's Ends Policies. On an annual basis, Valley Water conducts a process to plan for capital improvements and identify the resource needs and constraints to implement the projects. The result of this process is Board approval of a rolling 5-Year Capital Improvement Program (CIP)[13].

Table 4-5.2 shows the capital projects identified in a preliminary version of the FY 2023-27 CIP and associated expenditures for the next ten fiscal years. The table shows funding $5.7 billion worth of capital projects between FY 2022–23 and FY 2031–32. Approximately $2.4 billion of the program is allocated to a planned reservoir expansion project that will provide additional storage capacity for storm runoff and imported water. Roughly $701 million of the program is for recycled and purified water expansion, which will provide new drought-proof water supplies to help ensure future water supply reliability. The remaining portion of the capital program is primarily dedicated to asset management of Water Utility Enterprise facilities throughout the county. Staff continues to conduct a validation process as part of Valley Water's Asset Management Program, to identify if there is a compelling business case for capital projects. All newly proposed projects undergo the validation process prior to being proposed for inclusion in the CIP.

The capital program, including debt proceeds and debt service flow through the North County Zone W-2 financial model. The North County Zone W-2 is reimbursed for all capital projects that benefit South County Zones W-5, W-7, and W-8 via a capital cost recovery payment over a time period of 30 years, beginning when the project is completed.

[13] The latest CIP can be accessed at *www.valleywater.org/CIP.*

Table 4-5.2 Capital Improvements Projects – Fiscal Years 2022–23 Through 2031–32

Water Utility CIP FY 2023-32 Sorted by Cost Center (Funded)	Planned Funding with Inflation (Thousands of Dollars)						
Name	FY23	FY24	FY25	FY26	FY27	FY 28-32	Total FY 23-32
SOURCE OF SUPPLY							
Pacheco Reservoir Expansion*	30,794	43,903	267,929	320,158	268,307	1,458,830	2,389,921
EPWP [1] Indirect Potable Water Reuse Projects	33,700	35,384	170,853	153,454	151,338	156,193	700,922
Anderson Dam Seismic Retrofit (C1)*	167,485	122,267	95,435	88,877	89,632	438,025	1,001,721
Central Valley Project Capital Payments*	11,549	11,955	12,375	12,811	13,261	63,559	125,509
Guadalupe Dam Seismic Retrofit, Design and Construction	0	244	12,806	25,539	25,700	6,561	70,850
Small Capital Improvements, San Felipe Reach 1*	1,981	97	986	107	925	63,792	67,888
Almaden Dam Improvements	0	0	0	271	436	49,236	49,943
South County Recycled Water Pipeline, Short-Term Implementation	7,192	425	0	0	0	0	7,617
Coyote Pumping Plant ASD [2] Replacement	9,294	12,532	1,068	78	0	0	22,972
Dam Seismic Stability Evaluation*	418	437	5,649	417	436	932	8,289
South County Recycled Water Pipeline Land Rights	3,260	3,451	0	0	0	0	6,711
Small Capital Improvements, San Felipe Reach 3*	376	49	10	0	2,841	308	3,584
Calero and Guadalupe Dams Seismic Retrofits, Planning	0	793	0	0	0	0	793
Calero Dam Seismic Retrofit, Design and Constuction	0	0	0	0	0	17,657	17,657
Coyote Warehouse*	126	0	0	0	0	0	126
Small Capital Improvements, San Felipe Reach 2*	0	0	0	0	12	489	501
South County Recycled Water Pipeline - Short-Term Implementation	511	0	0	0	0	0	511
Source of Supply Subtotal	**266,686**	**231,537**	**567,111**	**601,712**	**552,888**	**2,255,582**	**4,475,515**
RAW WATER TRANSMISSION & DISTRIBUTION							
FAHCE [3] Implementation	0	0	4,739	4,379	14,691	98,611	122,420
Almaden Valley Pipeline Replacement	79	1,566	2,659	2,164	2,915	45,780	55,163
Vasona Pumping Plant Upgrade	922	16,963	555	0	0	0	18,440
Small Capital Improvements, Raw Water Transmission*	696	127	4,607	239	0	3,408	9,077
FAHCE [3] Stevens Creek Moffett Ave Fish Ladder, 90%	0	0	1,289	1,593	0	0	2,882
Pacheco/Santa Clara Conduit Right of Way Acquisition*	846	311	0	0	0	0	1,157
FAHCE [3] Stevens Creek Multi-Port Outlet at Dam, 90%	0	0	331	1,066	41	0	1,438
Raw Water Transmission & Distribution Subtotal	**2,543**	**18,967**	**14,180**	**9,441**	**17,647**	**147,799**	**210,577**
WATER TREATMENT							
RWTP [4] Reliability Improvement	6,036	55,706	56,219	56,752	14,476	0	189,189
Small Capital Improvements, Water Treatment	1,789	7,771	3,204	3,403	5,316	19,331	40,814
PWTP [5] Residuals Management	1,857	1,555	9,802	18,254	9,300	0	40,768
RWTP [4] Residuals Remediation	18,397	191	0	0	0	0	18,588
Water Treatment Plant Electrical Improvement	2,412	5,695	1,993	0	0	0	10,100
STWTP [6] Filter Media Replacement	4,779	1,679	0	0	0	0	6,458
Water Treatment Plant Implementation	732	3,197	856	0	0	0	4,785
Water Treatment Subtotal	**36,002**	**75,794**	**72,074**	**78,409**	**29,092**	**19,331**	**310,702**
TREATED WATER TRANSMISSION & DISTRIBUTION							
Treated Water Isolation Valves	0	496	2,110	1,922	599	2,104	7,231
Small Capital Improvements, Treated Water Transmission	38	28	114	50	0	306	536
Treated Water Transmission & Distribution Subtotal	**38**	**524**	**2,224**	**1,972**	**599**	**2,410**	**7,767**
ADMINISTRATION AND GENERAL							
Capital Program Services Administration*	2,838	2,846	4,138	4,370	4,416	27,532	46,140
10-Year Pipeline Rehabilitation (FY 2018-27)*	14,176	20,782	8,754	7,683	181	0	51,576
Metcalf Ponds, Design and Construction*	0	0	2,090	2,184	2,282	13,101	19,657
GS Capital Program Services	1,795	1,800	2,505	2,645	2,673	16,666	28,085
CIP Development and Administration*	1,009	1,012	1,408	1,487	1,503	9,370	15,790
Capital Warranty Services*	0	0	0	0	415	7,124	7,539
Ogier Ponds, Construction*	0	0	0	0	0	28,293	28,293
Headquarters Operations Building	1,247	3,817	1,369	1,431	0	0	7,864
Survey Management and Technical Support*	1,485	1,490	2,073	2,189	2,212	13,790	23,238
WTP-WQL [7] Network Equipment*	1,331	2,682	763	274	130	3,009	8,189
Distribution Systems Implementation	732	2,024	913	0	0	0	3,669
SCADA [8] Implemenation	1,571	1,150	0	0	0	0	2,721
Water Utility Capital Administration	5,250	5,515	5,680	5,963	6,231	35,621	64,260
Capital Project Management and Controls	515	531	612	616	633	3,723	6,630
Security Upgrades and Enhancements Project	188	197	203	209	4,215	4,930	9,942
IT Disaster Recovery	0	2	0	0	0	0	2
ERP System Implementation	142	0	0	0	0	0	142
Network Equipment	547	1,777	2,872	764	1,790	4,702	12,451
Office Computer & Printer Replacement	1,010	1,133	1,242	1,061	1,118	6,702	12,266
Software Upgrades & Enhancements	740	755	662	445	1,209	1,942	5,753
Data Consolidation	0	0	24	0	0	0	24
Capital Placeholder	0	500	1,350	23,225	20,925	323,384	369,384
Projected Carryforward*	8,957	0	0	0	0	0	8,957
Administration and General Subtotal	**43,535**	**48,012**	**36,657**	**54,547**	**49,932**	**499,888**	**732,572**
TOTAL FUNDED	348,803	374,834	692,247	746,081	650,159	2,925,010	5,737,133

Footnotes for Table 4-5.2, Capital Improvements Projects – Fiscal Years 2022-23 Through 2031-32:

1. Expedited Purified Water Program
2. Adjustable Speed Drive
3. Fisheries and Aquatic Habitat Collaborative Effort
4. Rinconada Water Treatment Plant
5. Penitencia Water Treatment Plant
6. Santa Teresa Water Treatment Plant
7. Water Treatment Plant – Water Quality Lab
8. Supervisory Control and Data Acquisition

* The asterisked projects would benefit one or more of the South County Zones W-5, W-7, & W-8 and therefore would be funded in part or in whole by the South County.

Table 4-5.3 lists the validated but not yet funded capital projects under the maximum proposed charges for FY 2022–23. The validated unfunded capital projects total approximately $213 million over the next ten years. A higher groundwater production charge projection would be necessary to fund these capital projects.

Table 4-5.3 List of Validated Unfunded Capital Projects

	Proposed Funding in Raw Dollars (Thousands of Dollars)						
Name	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Years 6-10**	**Total Yr 1-10**
SOURCE OF SUPPLY							
Long-Term Purified Water Program Elements	6,144	7,629	32,795	65,294	78,632	0	190,494
Pacheco Pumping Plant Alternative Power	314	983	4,236	6,983	4,503	0	17,019
Source of Supply Subtotal	**6,458**	**8,612**	**37,031**	**72,277**	**83,135**	**0**	**207,513**
WATER TREATMENT							
RWTP Ammonia Storage & Metering Facility Upgrade	278	461	1,227	2,865	1,013	0	5,844
Water Treatment Subtotal	**278**	**461**	**1,227**	**2,865**	**1,013**	**0**	**5,844**
TOTAL UNFUNDED	**6,736**	**9,073**	**38,258**	**75,142**	**84,148**	**0**	**213,357**

4-6 FINANCES

Financing and Bond Rating

To fund the construction of new facilities, Valley Water has historically relied on both pay-as-you-go financing as well as short-term and long-term debt financing. Water Utility debt service will increase by roughly $13.2 million in FY 2022–23 due to a planned long-term debt issuance. Looking forward, capital improvement needs total roughly $5.7 billion for the ten fiscal years 2022–23 through 2031–32. As shown in Figure 4-6.1, Valley Water will see debt service rise from $60.1 million in FY 2022–23 to roughly $236.7 million in FY 2031–32 as a result of periodic debt issuances to fund

capital projects. Total outstanding debt is shown in Figure 4-6.2 and is projected to increase from around $1.1 billion in FY 2022–23 to almost $3.5 billion in FY 2031–32. Projected outstanding debt would be higher if all validated unfunded capital projects were funded. Conversely, the debt level could be reduced if capital projects are eliminated or postponed, or if further external funding is found.

Valley Water actively pursues external funding sources, such as Water Infrastructure Finance and Innovation Act (WIFIA) loans, which are long-term, low-cost supplemental infrastructure loans that could fund up to 49 percent of a projects total cost. Valley Water has been invited by the EPA to apply for a WIFIA loan for the Pacheco Reservoir Expansion Project.

Figure 4-6.1 Projected Debt Service

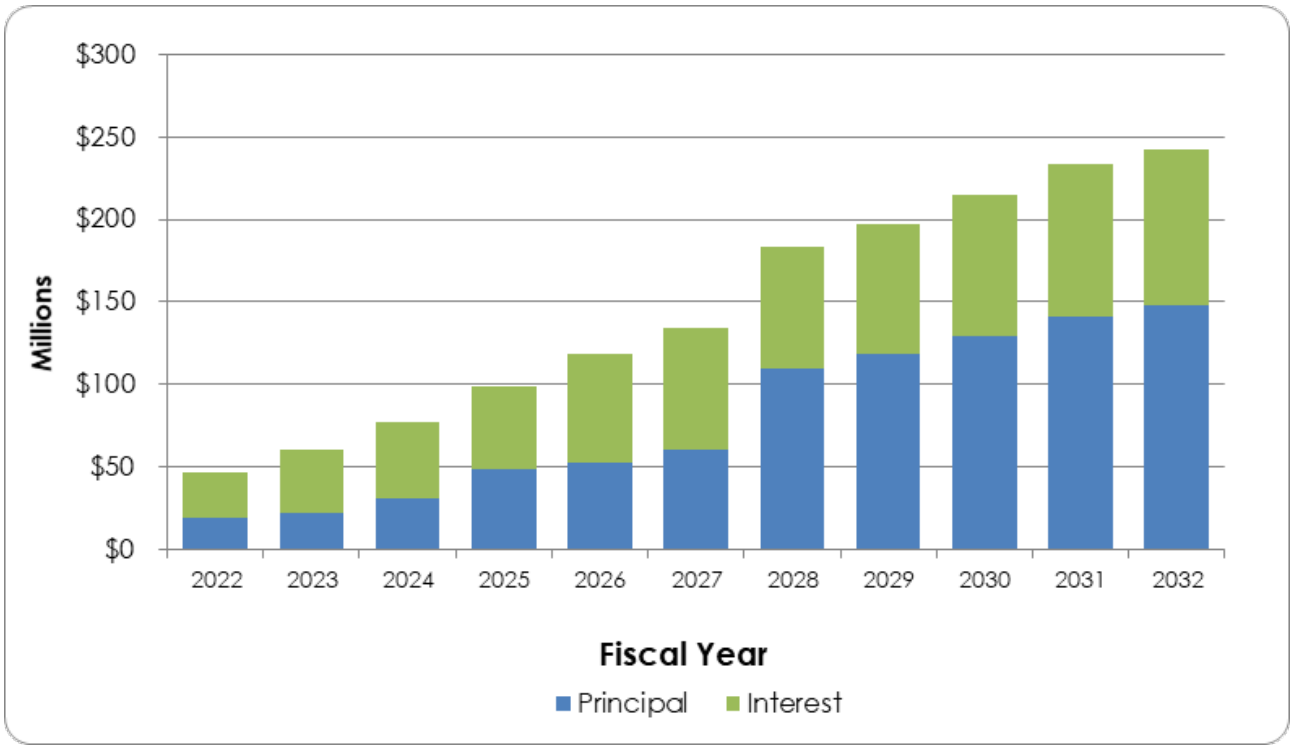
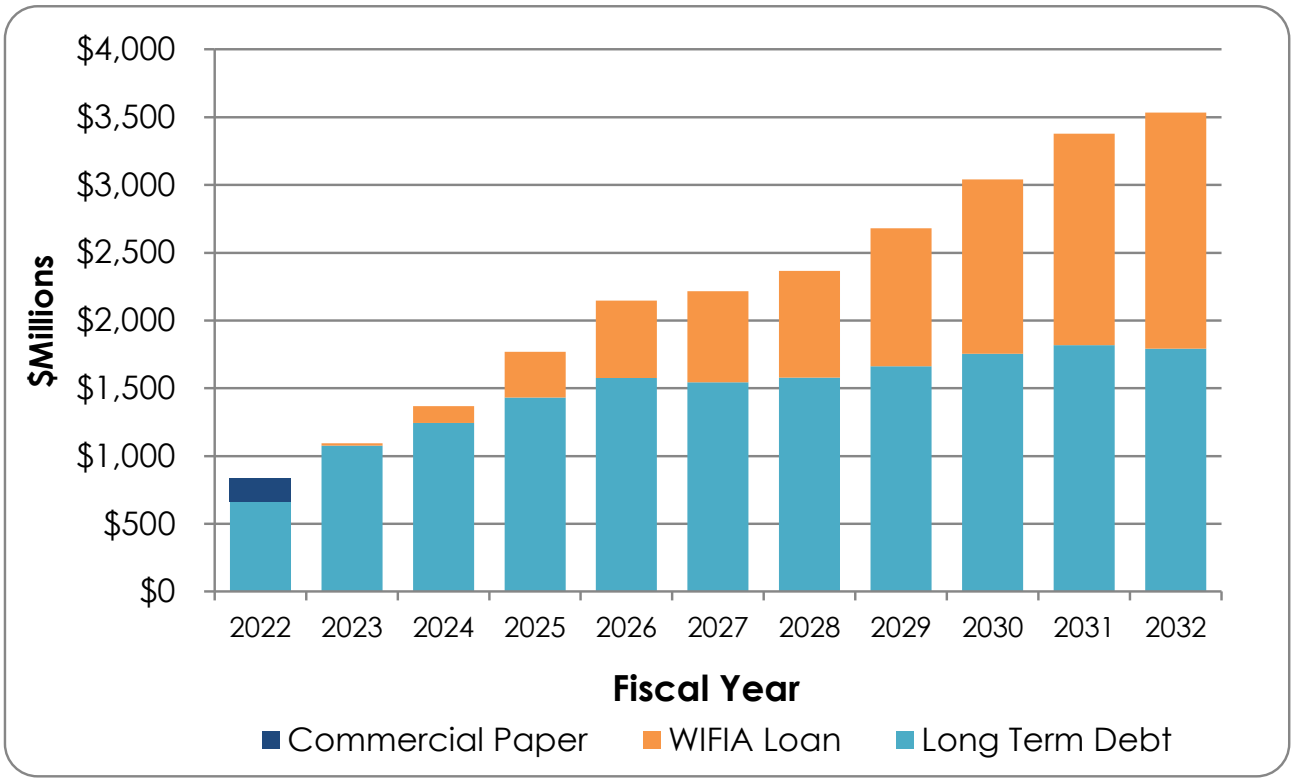


Figure 4-6.2 Projected Outstanding Debt



Current Water Utility senior lien debt issuances are rated Aa1 from Moody's and AA- from Standard & Poor's. Current Water Utility parity lien debt issuances are rated Aa1 from Moody's and AA+ from Fitch. These ratings reflect Valley Water's strong financial position and the highly rated credit worthiness of Valley Water's issued securities. The ratings are among the highest for a water-related governmental entity in the state of California, which helps keep interest costs borne by Valley Water at a minimum.

Water Utility Funds Projected Proforma

Table 4-6.1 shows the projected revenues, expenditures, and reserves over the next ten years for the Water Utility Funds. By financing with a combination of debt, current year revenue, and reserves, Valley Water can adequately fund its capital investment plan. Based on the previously discussed multi-year groundwater charge projection, key discretionary reserves (mainly the operating and capital reserve) would be maintained at or above the minimum per Valley Water's policy. The minimum per policy for these reserves equates to having roughly 3 months' worth of Water Utility operating outlays in the bank. These reserves serve several purposes including: 1) to meet cash flow needs; 2) provide emergency funding; and 3) to provide a funding source for future operating and capital needs.

Financial Outlook of Water Utility System

In FY 2022-23 Valley Water staff have developed a rate minimization strategy, levering the use of supplemental reserves. The rate stabilization reserve, drought contingency reserve, and supplemental water reserve will be used to purchase emergency water supplies and cover drought-related expenditures, such as increased water conservation tools and rebates, while minimizing groundwater production charge increases. Valley Water's current reserve policy can be found within the Financial Summaries section of the FY 2021-22 Budget document[14].

The ten-year financial plan shown in Table 4-6.1 reflects a Senior/Parity Lien Debt Service Coverage Ratio ranging between 1.74 and 2.10 between FY 2022-23 and FY 2031-32. Targeting a ratio of 2.0 or better helps to ensure financial stability and continued high credit ratings. Staff believes that targeting less than a 2.0 ratio for FY2022-23 and FY2023-24 strikes the right balance between minimizing water rate impacts during the drought, and maintaining solid financial

[14] The FY 2019-20 Budget document is located at *https://www.valleywater.org/how-we-operate/FinanceBudget.*

Table 4-6.1 Ten-Year Water Utility Plan – ($ in Thousands)

	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Operating Revenues												
Groundwater Production Charges	$132,111	$114,934	$122,002	$152,379	$188,804	$222,062	$242,712	$265,301	$290,012	$306,171	$323,720	$342,305
Surface & Recycled Water Charges	$2,747	$2,778	$3,207	$3,625	$4,104	$4,453	$4,833	$5,248	$5,697	$6,457	$6,794	$7,148
Treated Water Charges	$154,912	$127,699	$139,194	$171,022	$211,636	$248,465	$271,656	$297,099	$325,015	$342,700	$361,435	$381,222
Other	$406	$406	$406	$406	$406	$406	$406	$406	$406	$406	$406	$406
Inter-governmental Services	$4,102	$1,317	$3,342	$3,548	$13,080	$13,916	$15,071	$24,816	$30,690	$32,781	$34,691	$36,671
Total Operating Revenue	**$294,279**	**$247,135**	**$268,152**	**$330,980**	**$418,030**	**$489,303**	**$534,679**	**$592,871**	**$651,820**	**$688,516**	**$727,047**	**$767,752**
Non-Operating Revenues												
Property Taxes	$30,257	$34,927	$36,240	$37,563	$39,898	$42,244	$44,603	$46,974	$49,358	$52,756	$55,167	$57,593
Interest	$4,068	$2,732	$1,959	$1,335	$1,192	$1,777	$1,931	$2,193	$2,909	$3,035	$3,155	$3,824
Capital Contributions	$6,429	$5,652	$7,305	$6,529	$26,323	$36,087	$219,417	$205,156	$0	$0	$0	$0
Semitropic Sales	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$2,000	$2,036	$2,044	$2,052	$2,061	$2,070	$2,079	$2,089	$2,100	$2,110	$2,122	$2,134
Total Non-Operating Revenues	$42,754	$45,347	$47,548	$47,480	$69,474	$82,178	$268,031	$256,413	$54,366	$57,901	$60,443	$63,551
Total Revenue	**$337,033**	**$292,482**	**$315,700**	**$378,460**	**$487,504**	**$571,481**	**$802,709**	**$849,283**	**$706,186**	**$746,417**	**$787,490**	**$831,303**
	7.6%	-13.2%	7.9%	19.9%	28.8%	17.2%	40.5%	5.8%	-16.8%	5.7%	5.5%	5.6%
Operating Outlays												
Operations	$197,360	$234,921	$265,163	$277,398	$263,123	$263,853	$273,307	$303,867	$310,504	$321,171	$334,396	$349,600
Operating Projects	$266	$258	$426	$442	$458	$474	$490	$504	$519	$534	$550	$566
Debt Service	$38,921	$46,932	$60,190	$77,215	$98,555	$118,926	$134,493	$183,957	$196,849	$214,643	$233,196	$242,821
Total Operating Outlays	**$236,546**	**$282,111**	**$325,779**	**$355,055**	**$362,135**	**$383,253**	**$408,289**	**$488,328**	**$507,871**	**$536,348**	**$568,143**	**$592,987**
Operations + OP % Increase	19.5%	19.0%	12.9%	4.6%	-5.1%	0.3%	3.6%	11.2%	2.2%	3.4%	4.1%	4.5%
Operating Transfers In/(Out)	(6,007)	(3,178)	21,125	(5,285)	2,733	8,743	4,652	7,242	9,005	8,867	10,533	12,464
Debt Proceeds	162,632	171,484	269,037	288,277	425,174	404,900	108,624	187,116	351,278	401,539	382,265	208,075
Capital Outlay	(136,044)	(254,350)	(340,819)	(370,517)	(517,721)	(591,517)	(493,388)	(527,706)	(549,296)	(612,902)	(603,783)	(450,790)
Total Other Financing Sources/ (Uses)	20,581	(86,044)	(50,656)	(87,525)	(89,815)	(177,874)	(380,112)	(333,348)	(189,012)	(202,496)	(210,985)	(230,251)
Balance Available	**121,068**	**(75,673)**	**(60,736)**	**(64,120)**	**35,554**	**10,354**	**14,308**	**27,608**	**9,302**	**7,573**	**8,363**	**8,065**
Reserves:												
Restricted Reserves:												
WUE - Rate Stablization Reserve	$25,060	$55,476	$42,476	$7,476	$40,033	$43,830	$47,473	$59,090	$62,007	$66,160	$70,665	$73,698
GP 5 Reserve	$9,670	$7,106	$11,823	$16,865	$16,865	$16,865	$16,865	$16,865	$16,865	$16,865	$16,865	$16,865
San Felipe Emergency Reserve	$3,348	$3,360	$3,410	$3,460	$3,510	$3,560	$3,610	$3,660	$3,710	$3,760	$3,810	$3,860
Revenue Bond Debt Service Reserve	$7	$7	$7	$7	$7	$7	$7	$7	$7	$7	$7	$7
State Water Project Tax Reserve	$7,218	$7,348	$7,831	$6,764	$6,069	$5,662	$6,454	$6,454	$6,454	$6,454	$6,454	$6,454
P3 Reserve	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Drought Contingency Reserve	$10,000	$10,000	$0	$0	$2,000	$4,000	$6,000	$8,000	$10,000	$10,000	$10,000	$10,000
Supplemental Water Supply Appropo.	$15,477	$7,877	$5,277	$2,677	$6,077	$9,477	$12,877	$16,277	$16,677	$17,077	$17,477	$17,877
SVAWPC Sinking Fund	$1,298	$908	$908	$908	$908	$908	$908	$908	$908	$908	$908	$908
Total Restricted	**$72,078**	**$92,083**	**$71,732**	**$38,158**	**$75,470**	**$84,309**	**$94,195**	**$111,261**	**$116,629**	**$121,231**	**$126,186**	**$129,669**
Adjustment - Increase in Operati	($551)	($10,500)	$346	$53,925	($3,738)	($46,152)	($18,725)	($26,952)	($22,434)	($9,970)	($9,557)	($8,438)
Committed Reserves:												
Designated for Operating and Capital	$144,607	$63,929	$58,690	$63,291	$61,533	$63,047	$67,469	$78,011	$81,945	$84,916	$88,324	$92,906
Currently Authorized Projects	$85,293	$70,293	$35,146	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Designated Reserves	**$229,900**	**$134,222**	**$93,836**	**$63,291**	**$61,533**	**$63,047**	**$67,469**	**$78,011**	**$81,945**	**$84,916**	**$88,324**	**$92,906**
Total	**$301,977**	**$226,304**	**$165,568**	**$101,448**	**$137,002**	**$147,356**	**$161,664**	**$189,272**	**$198,574**	**$206,147**	**$214,510**	**$222,575**
Debt Service Coverage												
Senior & Parity Debt Service Coverage	3.89	1.70	1.76	1.78	2.16	2.47	2.45	1.95	2.12	2.09	2.05	2.10

North County (Zone W-2) Finances

North County, Zone W-2, is generally defined as the portion of the county north of Metcalf Road. North County accounts for approximately 80 percent of District-managed water consumption, but because of higher water charges due to higher North County costs, about 95 percent of the Water Utility Enterprise's revenue.

As shown at the beginning of the financial section in Table 4-2.1, the maximum proposed groundwater production charge for M&I or non-agricultural water is $1,724 per acre-foot, which is a 15 percent increase versus prior year. Staff recommends maintaining the surcharge on treated water delivered under the contracts with retail agencies at $115 per acre-foot, which would result in a total charge of $1,839 per acre-foot for contract treated water for FY 2022–23, or a 13.9 percent increase compared to FY 2021–22. If adopted by the Board, the average household would experience an increase in their monthly bill ranging $7.75 or about 26 cents a day. Customers may also experience additional charge increases enacted by their retail water provider.

As outlined in treated water contracts, Valley Water has the discretion to make available treated water in excess of the retailers' basic contract amounts, so-called non-contract treated water, "… at such times and such prices as determined by the District." Staff recommends maintaining the non-contract surcharge at $200 per acre-foot for FY 2022–23. By recommending $200 per acre-foot for the non-contract surcharge, retail customers would be encouraged to maintain a reasonable level of pumping from the groundwater basin in situations where retailers need more water than their contracted treated water amounts.

The proposed maximum agricultural groundwater production charge is $36.85 per acre-foot for FY 2022-23, which is an 8 percent increase or roughly a $0.45 increase per month per acre for the average agricultural water user.

Staff recommends that the surface water master charge be increased from $40.90 per acre-foot to $47.10 per acre-foot to align revenues with costs related to managing, operating, and billing for surface water diversions. The increases in the basic user charge and surface water master charge result in a total surface water charge for M&I water of $1,771.10 per acre-foot or up to a 15 percent increase. The total surface water charge for agricultural water represents up to a 12 percent increase at $83.95 per acre-foot.

To ease the burden on proposed groundwater production charge increases, staff recommends setting the SWP tax collection for FY 2022–23 at $27 million. Valley Water incurs an annual indebtedness to the State of California pursuant to its Water Supply Contract dated November 20, 1961. Such indebtedness is proportional to Valley Water's allocation of water from the SWP and pays for construction, maintenance, and operation of SWP infrastructure and facilities. Staff anticipates that Valley Water's contractual indebtedness to the State under the State Water Supply Contract for FY 2022–23 will be approximately $28 million. Not levying the SWP tax in FY 2022–23 would result

in revenue loss equivalent to $177 per AF in terms of the North County Zone W-2 M&I groundwater production charge. In the South County, not levying the SWP tax in FY 2022–23 would result in M&I groundwater production charge revenue loss equivalent to $37 per AF in Zone W-5, $60 per AF in Zone W-7 and $27 per AF in Zone W-8. In terms of the Open Space Credit, if the SWP tax was not levied revenue loss would be equivalent to $885,200. See Page 66 for further information on the Open Space Credit.

Out of an abundance of caution, staff continues to recommend that the Board not consider use of the SWP tax to pay for the SWP portion of Delta Conveyance until after there is legal certainty that Delta Conveyance is authorized to be financed and repaid for through past SWP or CVP bond acts and voter approvals. If the Board were to direct staff to pay for the State Water Project portion of the Delta Conveyance with the SWP tax instead of with water charges, then the groundwater charge projection shown in the report would be reduced accordingly, and the average annual SWP tax bill for a single-family residence could increase by as much as $11 per year by FY 2031-32. Today, the average annual SWP tax bill is approximately $40 per year based on the average assessed value of a single-family residence in Santa Clara County of roughly $828,000.

Table 4-6.2 shows the relationship between expenditures and the sources of revenue in North County, Zone W-2. The proposed groundwater production charges for FY 2022–23 are necessary to conduct "district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this State" (District Act, Section 26.3).

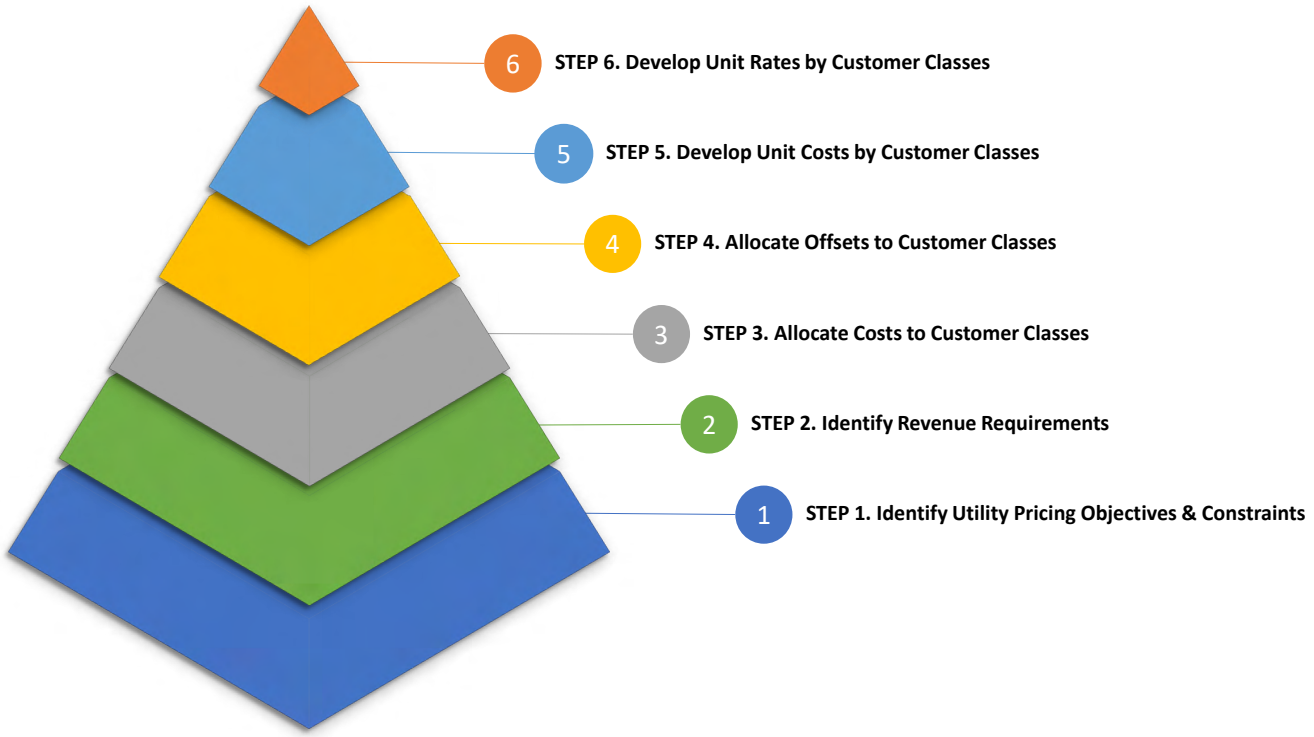
Table 4-6.2 Fiscal Year 2022–23 North County Water Utility Water Program Requirements and Financing Sources

Cost Center	Ends Policy	FY 23 Projected ($K)	Description of Cost Center/Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	147,032	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	14,840	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated Water Transmission &	E-2.3 Reliable High Quality Water is Delivered	53,866	These cost centers contain all expenditures associated with the treatment of water at the Rinconada, Penitencia and Santa Teresa Water Treatment Plants, as well as those expenditures related to the distribution of treated water to water utilities and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts.
Administration & General	Support Services	21,818	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Debt Service	60,190	Principal and Interest payments on outstanding debt
	Capital Improvements	344,693	Capital Improvement Program
	Open Space Credit	5,763	Help preserve the open space benefits provided by agricultural lands
	Adjust for FY 20 Actuals Versus Plan	30,923	
	Total Program Requirements	**679,127**	
	Financing Sources		
	Capital Cost recovery	8,739	
	Debt Proceeds	269,037	
	Interest & Other	30,040	
	Property Tax	32,949	
	Treated Water Sales	139,194	
	Surface Water Charges	2,434	
	Groundwater Production Charges	108,952	
	Capital Carryforward Reserves	35,146	
	Change in Reserves	52,635	
	Total Financing Sources	**679,127**	

Figure 4-6.3 and Table 4-6.3 show the cost-of-service analysis by customer class following six industry standard rate making steps:

1. Identify utility pricing objectives and constraints
2. Identify revenue requirements
3. Allocate costs to customer classes
4. Reduce costs by revenue offsets or non-rate related funding sources
5. Develop unit costs by customer class or net revenue requirements by customer class
6. Develop unit rates by customer class

Figure 4-6.3 Industry Standard Rate Making Steps



Water Utility pricing objectives and constraints representing rate making step 1 are identified in Resolution 99-21, the District Act, Proposition 218, Proposition 26, and existing contracts.

Line 11 in Table 4-6.3 represents rate making steps 2 and 3 summarizing the revenue requirements for North County Modified Zone W-2 including operations costs, capital costs and debt service. Step 2 involves allocating Water Utility costs between zone W-2 (North County) and zones W-5, W-7, and W-8 (South County) according to the benefits provided in each zone. Appendix B shows the percentage of operations costs allocated to the South County, along with a brief description of the basis of the allocation. Appendix C shows the percentage of capital and debt service costs allocated to South County along with a brief description of the basis of the allocations. Costs not allocated to the South County are allocated to the North County. Step 3 involves allocating costs directly to each customer class where possible or allocating based on volume where the program services benefit multiple customer classes.

Line 30 in Table 4-6.3 represents rate making steps 4 and 5. It reflects the unit cost per acre-foot by customer class after applying non-rate related offsets to the revenue requirements. Offsets have been allocated directly to each zone and customer class where possible or allocated based on volume where the offset applies to multiple customer classes. FY 2022–23 unit costs include an adjustment for the reconciliation of FY 2019-20 actual costs and revenues against what should have been collected given actual costs.

Line 40 represents rate making step 6. There are two adjustments that have been made to achieve a pricing structure that meets the objectives of Resolution 99-21, namely a structure that facilitates managing surface water (SW) and groundwater (GW) supplies conjunctively to prevent the over use or under use of the groundwater basin. First, non-rate related revenues are offset against the cost of agricultural water. This is referred to as the "Open Space Credit." The purpose of the credit is to preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low.

The second adjustment involves reallocating the cost of treated water to groundwater and surface water users based on proportional water usage. Importing water into the county for treatment and subsequent distribution to treated water (TW) users offsets the need to pump water from the ground. Without treated imported water supplies, the groundwater basin would become over drafted, which would also impact surface water users (who are permitted to take surface water in-lieu of pumping it from the ground). Consequently, the reallocation of treated water cost represents the value of treated water to groundwater and surface water users and facilitates a pricing structure that prevents the overuse of the groundwater basin. The 2011 RFC report[15] mentioned earlier in chapter 4 supports the reasonableness of such an adjustment.

Another aspect of the second adjustment is related to setting the basic user charge for surface water equal to the groundwater production charge. Surface water use is effectively in-lieu groundwater use permitted by the district to help preserve the groundwater basin. As such, the costs related to preserving the groundwater basin provide value to surface water users because it makes available district surface water, which otherwise would only be used for groundwater recharge. Similarly, the costs related to providing surface water benefit groundwater users because surface water usage helps preserve the groundwater basin. The second adjustment reallocates cost between surface water and groundwater customers in order to set the basic user charge for surface water equal to the groundwater production charge in recognition of this conjunctive use relationship, and in accordance with board policy.

[15] The RFC reports, dated March 5, 2010, February 17, 2011, February 27, 2015, and February 28, 2020 can be found at: *https://www.valleywater.org/ProposedWaterCharges.*

Table 4-6.3 FY 2022–23 North County Modified Zone W-2 Cost of Service by Customer Class

	FY '23 Projection ($ in Thousands)	Zone W-2					
		GW		TW	SW		Total W-2
		M&I	AG	M&I	M&I	Ag	
1	**Operating Outlays**						
2	Operations/Operating Projects	68,747	703	138,016	1,785	49	209,300
3	SWP Imported Water Costs	6,848	70	20,990	339	9	28,257
4	Debt Service	15,447	159	44,362	217	6	60,190
5	**Total Operating Outlays**	91,042	932	203,368	2,341	65	297,747
6	Step 2-						
7	**Capital & Transfers** Identify revenue						
8	Operating Transfers Out reqmnts	1,737	18	2,081	38	1	3,875
9	Capital Outlays excl. carryforward	117,955	1,213	183,902	2,530	70	305,672
10	**Total Capital & Transfers**	119,693	1,231	185,983	2,568	71	309,547
11	**Total Annual Program Costs**	210,735	2,163	389,351	4,909	136	607,294
12							
13	**Revenue Requirement Offsets**	Step 3 - Allocate costs to customer classes					
14	Capital Cost Recovery	(3,918)	(40)	(4,694)	(85)	(2)	(8,739)
15	Debt Proceeds	(103,818)	(1,068)	(161,862)	(2,227)	(62)	(269,037)
16	Inter-governmental Services	(1,431)	(15)	(1,714)	(31)	(1)	(3,192)
17	SWP Property Tax	(6,151)	(63)	(18,853)	(304)	(8)	(25,380)
18	South County Deficit/Reserve	4,279	44	5,126	93	3	9,544
19	Interest Earnings Step 4-	(878)	(9)	(1,052)	(19)	(1)	(1,959)
20	Inter-zone Interest Reduce costs by	61	1	72	1	0	135
21	Capital Contributions revenue offsets	(3,275)	(34)	(3,923)	(71)	(2)	(7,305)
22	Other	(886)	(9)	(1,367)	(22)	(1)	(2,285)
23	Reserve Requirements	(21,858)	(102)	(30,201)	(469)	(6)	(52,635)
24	**Adjusted Revenue Requirement (FY 23)**	**61,650**	**753**	**157,457**	**1,531**	**49**	221,440
25	**Adjusted Revenue Requirement (FY 20 adj)**	(56)	(0)	30,737	242	0	30,923
26							
27	**Total Adjusted Revenue Requirement**	**61,594**	**753**	**188,193**	**1,773**	**50**	252,363
28	Volume (KAF)	63.2	0.7	75.7	1.4	0.0	140.9
29							
30	Revenue Requirement ($ per AF)	$ 975	$ 1,158	$ 2,486	$ 1,292	$ 1,298	
31		Step 5 - Develop unit costs by customer class					
32	**Adjustments for Agricultural Preservation**						
33	Allocate WU 1% Ad Valorem Prop Tax	-	(729)	-	-	(46)	(775)
34	Transfer GF 1% Ad valorem Prop Tax	-	-	-	-	-	-
35	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-	-
36	Revenue Requirement ($ per AF)	$ 974.9	$ 36.9	$ 2,486	$ 1,292	$ 84.0	
37	Step 6 - Rate Design						
38	**Adjustments to Facilitate Conjunctive Use**						
39	Reallocate TW/SW/RW costs	47,334	-	(47,991)	658	-	(0)
40	Water Charge ($ per AF)	$ 1,724.00	$ 36.85	$ 1,839.00	$ 1,771.10	$ 83.95	$ -
41	Total Revenue ($K)	$ 108,928	$ 24	$ 140,202	$ 2,431	$ 3	$ 251,588

South County (Zones W-5, W-7, and W-8) Finances

South County Zone W-5 is generally defined as the area overlaying the Llagas groundwater subbasin in the southern portion of Santa Clara County including Gilroy, San Martin, and most of Morgan Hill. Zone W-7 overlays the Coyote Valley south of Metcalf Road, and Zone W-8 includes areas below Uvas and Chesbro Reservoirs.

Within the Water Utility Fund, Valley Water staff track revenue and costs associated with the South County groundwater benefit zones separately so that a groundwater production charge for services that benefit each South County zone can be calculated. Charges in the South County zones are based on the costs of specific facilities, imported water costs, and operations costs related to managing a conjunctive use program, ensuring water quality, and measuring water supplies and usage. Historically, South County finances have been managed to maintain an approximate balance between cumulative revenues and costs. However, going forward, staff believe that maintaining a cumulative surplus or reserve balance would be prudent to provide a funding source for future costs.

For the South County Zone W-5, staff proposes up to a 5.2 percent increase, or a $513 per acre- foot groundwater production charge for M&I or non-agricultural water. The average household would experience an increase in their monthly bill of $0.86 or about 3 cents per day.

For the South County Zone W-7, staff proposes up to a 10.3 percent increase, or a $582.50 per acre-foot groundwater production charge for M&I or non-agricultural water. The average household would experience an increase in their monthly bill of $1.86 or about 6 cents per day.

For the South County Zone W-8, staff proposes up to an 8 percent increase, or a $368.50 per acre-foot groundwater production charge for M&I or non-agricultural water. The average household would experience an increase in their monthly bill of $0.93 or about 3 cents per day.

Customers in each zone may also experience additional water charge increases enacted by their retail water provider.

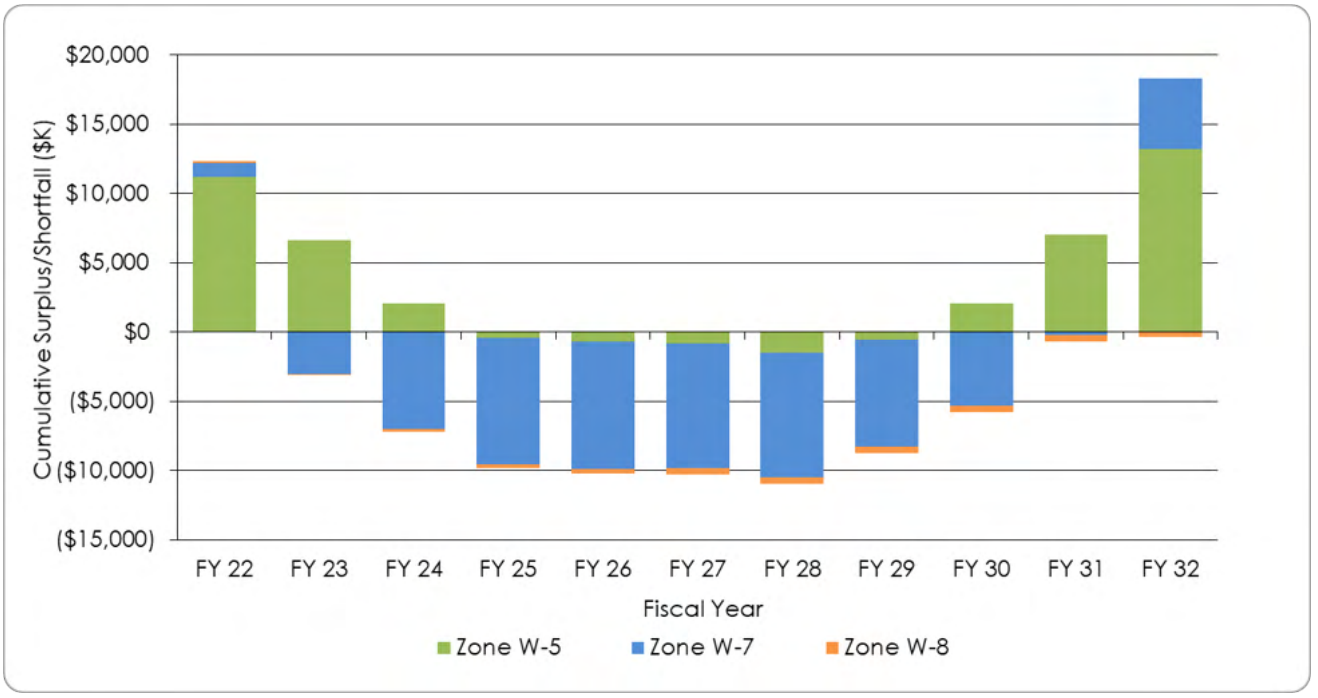
The proposed maximum agricultural groundwater production charge in any groundwater benefit zone is $36.85 per acre-foot for FY 2022-23, which is up to an 8 percent increase, or roughly a $0.23 increase per month per acre for the average agricultural water user.

Staff recommends that the surface water master charge be increased from $40.90 per acre-foot to $47.10 per acre-foot to align revenues with costs related to managing, operating, and billing for surface water diversions. The increases in the basic user charge and surface water master charge result in a total surface water charge for M&I water as follows: $560.10 per acre-foot, or up to a 5.9 percent increase for Zone W-5; $629.60 per acre-foot, or up to a 10.6 percent increase for Zone W-7; and $415.60 per acre-foot, or an up to an 8.7 percent increase for Zone W-8. The total surface water charge for agricultural water represents up to a 11.9 percent increase at $83.95 per acre-foot.

For recycled water, staff recommends increasing the M&I charge up to 5.3 percent to $493 per acre-foot. For agricultural recycled water, the proposed maximum is a 4.4 percent increase to $64.25 per acre-foot. This pricing is consistent with the provisions of the "Wholesale-Retailer Agreement for Supply of Recycled Water Between Santa Clara Valley Water District and City of Gilroy."16 The proposed rate changes maximize cost recovery while concurrently providing an economic incentive to use recycled water.

For FY 2022-23, costs are estimated to exceed revenues by approximately $8.5 million for the three South County groundwater benefit zones in aggregate. Figure 4-6.4 shows a cumulative revenue surplus in FY 2022-23; however, the cumulative balance is projected to be negative for multiple years, growing back into a surplus by FY 2030-31. The projected revenue surplus in the later years could help pay for potential dam seismic work at Uvas and Chesbro dams. The projection assumes an average increase in the M&I groundwater charge between FY 2022–23 and FY 2031–32 of 5.2 percent for Zone W-5, 10.3 percent for zone W-7, and 8 percent for Zone W-8.

Figure 4-6.4 South County Cumulative Revenue Surplus / Shortfall Projection ($/Thousands)



[16] The Wholesale-Retailer Agreement for Supply of Recycled Water Between Santa Clara Valley Water District and City of Gilroy can be accessed at https://www.valleywater.org/ProposedWaterCharges.

Open Space Credit

The District Act limits agricultural groundwater production charges to a maximum of 25 percent of the M&I groundwater production charges. The agricultural community benefits from the current Board pricing policy limiting the agricultural groundwater charge to no more than 10 percent of the M&I charge. The credit to agricultural water users has become known as the "open space credit." It is paid for by fungible non-rate related revenue (i.e., 1 percent ad valorem property taxes). The purpose of the open space credit is to help preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low.

For FY 2022-23 the staff proposed maximum agricultural groundwater production is set at 10 percent of the lowest M&I charge, which is for Zone W-8. The resulting charge would be $36.85 per acre-foot in all zones. The estimated open space credit received by the South County groundwater benefit zones would be $7.5 million for FY 2022–23 (funded by 1 percent ad valorem property taxes). This includes an adjustment that reconciles FY 2019–20 actuals against what was projected.

Program Requirements and Financing Sources

Tables 4-6.4a, b, and c show the relationship between expenditures and sources of revenue for the three South County zones in aggregate for FY 2022–23. The specific operating costs allocated to the South County zones can be found in Appendix B. Details on capital cost recovery can be found in Appendix C. The maximum groundwater production charges proposed for FY 2022–23 in the South County Zones W-5, W-7, and W-8 are necessary to conduct, "district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this State" (District Act, Section 26.3).

Table 4-6.4a Fiscal Year 2022–23 South County Zone W-5 Water Utility Program Requirements and Financing Sources

		Zone W-5	
Cost Center	**Ends Policy**	**FY23 Projected ($K)**	**Description of Cost Center/Activities**
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	9,896	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	2,802	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated Water	E-2.3 Reliable High Quality Water is Delivered	685	These cost centers contain all expenditures associated with the Water Quality Laboratory
Administration & General	Support Services	5,322	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Capital Cost Recovery	6,970	Annual payment for completed capital facilities and improvements
	Interest (Earned)/Due Utility Reserves	(105)	Based on cumulative revenue surplus at the current interest earnings rate
	Adjust for FY 20 Actuals Versus Plan	(3,130)	
	Total Program Requirements	**22,440**	
	Financing Sources		
	Open Space Credit	4,067	
	Property Tax & Other Revenue	2,762	
	Surface Water Charges	272	
	Recycled Water Charges	384	
	Groundwater Production Charges	8,560	
	Total Financing Sources	**16,044**	
	FY 23 Revenue Surplus/ (Shortfall)	**(6,396)**	

Table 4-6.4b Fiscal Year 2022–23 South County Zone W-7 Water Utility Program Requirements and Financing Sources

Cost Center	Ends Policy	Zone W-7 FY 23 Projected ($K)	Description of Cost Center/Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	5,514	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	1,605	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated	E-2.3 Reliable High Quality Water is Delivered	28	These cost centers contain all expenditures associated with the Water Quality Laboratory
Administration & General	Support Services	1,714	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Capital Cost Recovery	1,746	Annual payment for completed capital facilities and improvements
	Interest (Earned)/Due Utility Reserves	(28)	Based on cumulative revenue surplus at the current interest earnings rate
	Adjust for FY 20 Actuals Versus Plan	(682)	
	Total Program Requirements	**9,896**	
	Financing Sources		
	Open Space Credit	1,639	
	Property Tax & Other Revenue	803	
	Surface Water Charges	85	
	Recycled Water Charges	-	
	Groundwater Production Charges	4,370	
	Total Financing Sources	**6,896**	
	FY 23 Revenue Surplus/(Shortfall)	**(3,000)**	

Table 4-6.4c Fiscal Year 2022–23 South County Zone W-8 Water Utility Program Requirements and Financing Sources

Cost Center	Ends Policy	Zone W-8 FY 23 Projected ($K)	Description of Cost Center/Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	169	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	13	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated	E-2.3 Reliable High Quality Water is Delivered	2	These cost centers contain all expenditures associated with the Water Quality Laboratory
Administration & General	Support Services	282	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Capital Cost Recovery	24	Annual payment for completed capital facilities and improvements
	Interest (Earned)/Due Utility Reserves	(2)	Based on cumulative revenue surplus at the current interest earnings rate
	Adjust for FY 20 Actuals Versus Plan	(65)	
	Total Program Requirements	**423**	
	Financing Sources		
	Open Space Credit	57	
	Property Tax & Other Revenue	65	
	Surface Water Charges	32	
	Recycled Water Charges	-	
	Groundwater Production Charges	121	
	Total Financing Sources	**275**	
	FY 23 Revenue Surplus/(Shortfall)	**(148)**	

Financial Outlook of Water Utility System

Figure 4-6.3 and Tables 4-6.5a, b, and c show the cost-of-service analysis by customer class following the six industry standard rate making steps for South County Zones W-5, W-7, and W-8:

1. Identify utility pricing objectives and constraints
2. Identify revenue requirements
3. Allocate costs to customer classes
4. Reduce costs by revenue offsets or non-rate related funding sources
5. Develop unit costs by customer class or net revenue requirements by customer class
6. Develop unit rates by customer class

As previously mentioned, Water Utility pricing objectives and constraints representing rate making step 1 are identified in Resolution 99-21, the District Act, Proposition 218, Proposition 26, and existing contracts.

Line 11 in Tables 4-6.5a, b, and c represents rate making steps 2 and 3 summarizing the revenue requirements for South County Zones W-5, W-7, and W-8. Costs have been allocated directly to each customer class where possible or allocated based on volume where the costs benefit multiple customer classes.

Line 30 in Tables 4-6.5a, b, and c represents rate making steps 4 and 5. It reflects the unit cost per acre-foot by customer class after applying non-rate related offsets to the revenue requirements. Offsets have been allocated directly to each customer class where possible or allocated based on volume where the offset applies to multiple customer classes. FY 2022–23, unit costs include an adjustment for the reconciliation of FY 2019–20 actual costs and revenue against what should have been collected given actual costs.

Line 40 represents rate making step 6. There are two adjustments that have been made to achieve a pricing structure that meets the objectives of Resolution 99-21, namely a structure that facilitates managing surface water and groundwater supplies conjunctively to prevent the over use or under use of the groundwater basin. First, non-rate related revenues are offset against the cost of agricultural water. This is referred to as the "Open Space Credit". The purpose of the credit is to help preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low.

The second adjustment is related to setting the basic user charge for surface water equal to the groundwater production charge. Surface water use is effectively in-lieu groundwater use permitted by Valley Water to help preserve the groundwater basin. As such, the costs related to preserving the groundwater basin provide value to surface water users because it makes available surface water which otherwise would only be used for groundwater recharge. Similarly, the costs related to providing surface water benefit groundwater users because surface water usage helps preserve the groundwater basin. The second adjustment reallocates cost between surface water and groundwater customers in order to set the basic user charge for surface water equal to the groundwater production charge in recognition of this conjunctive use relationship, and in accord with board policy.

The 2015 RFC report[17] mentioned earlier in chapter 4 supports the reasonableness of these recycled and surface water conjunctive use adjustments.

Another aspect of the second adjustment involves reallocating the cost of recycled water (RW) to groundwater and surface water users in Zone W-5 only. Without recycled water supplies, there would be additional demand on the groundwater basin and a higher risk of overdraft, which would also impact surface water users (who are permitted to take surface water in lieu of pumping it from the ground). Consequently, the reallocation of recycled water cost represents the value of recycled water to groundwater and surface water users and facilitates a pricing structure that helps prevent the overuse of the groundwater basin.

[17] The RFC reports, dated March 5, 2010, February 17, 2011, February 27, 2015, and February 28, 2020 can be found at: https://www.valleywater.org/ProposedWaterCharges.

Table 4-6.5a FY 2022-23 South County Zone W-5 Cost of Service by Customer Class

	FY '23 Projection ($ in Thousands)	Zone W-5						
		GW		SW		RW		Total W-5
		M&I	AG	M&I	AG	M&I	AG	
1	**Operating Outlays**							
2	Operations/Operating Projects	7,284	10,120	219	552	285	244	18,705
3	SWP Imported Water Costs	-	-	-	-	-	-	-
4	Debt Service	-	-	-	-	-	-	-
5	**Total Operating Outlays**	7,284	10,120	219	552	285	244	18,705
6	Step 2-							
7	**Capital & Transfers** Identify revenue							
8	Operating Transfers Out requirements	-	-	-	-	-	-	-
9	Capital Outlays excl. carryforward	-	-	-	-	-	-	-
10	**Total Capital & Transfers**	-	-	-	-	-	-	-
11	**Total Annual Program Costs**	7,284	10,120	219	552	285	244	18,705
12								
13	**Revenue Requirement Offsets**	Step 3 - Allocate costs to customer classes						
14	Capital Cost Recovery	1,220	1,766	28	73	2,091	1,792	6,970
15	Debt Proceeds	-	-	-	-	-	-	-
16	Inter-governmental Services	(33)	(48)	(1)	(2)	-	-	(84)
17	SWP Property Tax	(470)	(681)	(11)	(28)	(22)	(19)	(1,231)
18	South County Deficit/Reserve	(1,284)	(4,514)	(46)	(188)	(240)	(124)	(6,396)
19	Interest Earnings Step 4-	-	-	-	-	-	-	-
20	Inter-zone Interest Reduce costs by	(40)	(58)	(1)	(2)	(2)	(2)	(105)
21	Capital Contributions revenue offsets	-	-	-	-	-	-	-
22	Other	(53)	(77)	(1)	(2)	(1)	(1)	(134)
23	Reserve Requirements	-	-	-	-	-	-	-
24	**Adjusted Revenue Requirement (FY 23)**	**6,623**	**6,508**	**188**	**404**	**2,111**	**1,891**	17,726
25	**Adjusted Revenue Requirement (FY 20 adj)**	(697)	(2,502)	(26)	(0)	96	(0)	(3,130)
26								
27	**Total Adjusted Revenue Requirement**	**5,926**	**4,007**	**162**	**403**	**2,206**	**1,891**	14,595
28	Volume (KAF)	15.1	21.9	0.4	0.9	0.7	0.6	39.6
29								
30	Revenue Requirement ($ per AF)	$ 392	$ 183	$ 463	$ 443	$ 3,152	$ 3,151	
31		Step 5 - Develop unit costs by customer class						
32	**Adjustments for Agricultural Preservation**							
33	Allocate WU 1% Ad Valorem Prop Tax	-	(3,200)	-	(327)	-	(1,852)	(5,379)
34	Transfer GF 1% Ad valorem Prop Tax	-	-	-	-	-	-	-
35	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-	-	-
36	Revenue Requirement ($ per AF)	$ 392	$ 36.9	$ 463	$ 84.0	$ 3,152	$ 64.2	
37	Step 6 - Rate Design							
38	**Adjustments to Facilitate Conjunctive Use**							
39	Reallocate TW/SW/RW costs	1,827	-	34	-	(1,861)	-	-
40	Water Charge ($ per AF)	$513	$ 36.85	$ 560.10	$ 83.95	$ 493.00	$64.25	
41	Total Revenue ($K)	$7,754	$807	$196	$76	$345	$39	$9,216

Table 4-6.5b FY 2022–23 South County Zone W-7 Cost of Service by Customer Class

	FY '23 Projection ($ in Thousands)	Zone W-7				
		GW		SW		Total W-7
		M&I	AG	M&I	AG	
1	**Operating Outlays**					
2	Operations/Operating Projects	5,972	2,349	151	388	8,861
3	SWP Imported Water Costs	-	-	-	-	-
4	Debt Service	-	-	-	-	-
5	**Total Operating Outlays**	5,972	2,349	151	388	8,861
6	Step 2-					
7	**Capital & Transfers** Identify revenue					
8	Operating Transfers Out requirements	-	-	-	-	-
9	Capital Outlays excl. carryforward	-	-	-	-	-
10	**Total Capital & Transfers**	-	-	-	-	-
11	**Total Annual Program Costs**	5,972	2,349	151	388	8,861
12						
13	**Revenue Requirement Offsets**	Step 3 - Allocate costs to customer classes				
14	Capital Cost Recovery	1,202	484	16	43	1,746
15	Debt Proceeds	-	-	-	-	-
16	Inter-governmental Services	(45)	(18)	(1)	(2)	(65)
17	SWP Property Tax	(245)	(99)	(3)	(9)	(356)
18	South County Deficit/Reserve	(2,325)	(608)	(13)	(54)	(3,000)
19	Interest Earnings Step 4-	-	-	-	-	-
20	Inter-zone Interest Reduce costs by	(19)	(8)	(0)	(1)	(28)
21	Capital Contributions revenue offsets	-	-	-	-	-
22	Other	(20)	(8)	(0)	(0)	(29)
23	Reserve Requirements	-	-	-	-	-
24	**Adjusted Revenue Requirement (FY 23)**	**4,519**	**2,092**	**150**	**366**	7,128
25	**Adjusted Revenue Requirement (FY 20 adj)**	(337)	(337)	(8)	(0)	(682)
26						-
27	**Total Adjusted Revenue Requirement**	**4,181**	**1,755**	**143**	**366**	6,446
28	Volume (KAF)	7.3	2.9	0.1	0.3	10.6
29						
30	Revenue Requirement ($ per AF)	$ 572	$ 595	$ 1,428	$ 1,408	
31						
32	**Adjustments for Agricultural Preservation**	Step 5 - Develop unit costs by customer				
33	Allocate WU 1% Ad Valorem Prop Tax	-	(1,647)	-	(344)	(1,991)
34	Transfer GF 1% Ad valorem Prop Tax	-	-	-	-	-
35	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-
36	Revenue Requirement ($ per AF)	$ 572	$ 36.9	$ 1,428	$ 84.0	
37	Step 6 - Rate Design					
38	**Adjustments to Facilitate Conjunctive Use**					
39	Reallocate TW/SW/RW costs	80	-	(80)	-	-
40	Water Charge ($ per AF)	$583	$ 36.85	$ 629.60	$ 83.95	
41	Total Revenue ($K)	$4,261	$109	$63	$22	$4,454

Table 4-6.5c FY 2022-23 South County Zone W-8 Cost of Service by Customer Class

	FY '23 Projection ($ in Thousands)	Zone W-8					Total
		GW		SW		Total W-8	South County
		M&I	AG	M&I	AG		
1	**Operating Outlays**						
2	Operations/Operating Projects	159	227	23	57	466	28,032
3	SWP Imported Water Costs	-	-	-	-	-	-
4	Debt Service	-	-	-	-	-	-
5	**Total Operating Outlays**	159	227	23	57	466	28,032
6	Step 2-						
7	**Capital & Transfers** Identify revenue						
8	Operating Transfers Out requirements	-	-	-	-	-	-
9	Capital Outlays excl. carryforward	-	-	-	-	-	-
10	**Total Capital & Transfers**	-	-	-	-	-	-
11	**Total Annual Program Costs**	159	227	23	57	466	28,032
12							
13	**Revenue Requirement Offsets**	Step 3 - Allocate costs to customer classes					
14	Capital Cost Recovery	8	11	1	4	24	8,739
15	Debt Proceeds	-	-	-	-	-	-
16	Inter-governmental Services	(0)	(0)	(0)	(0)	(1)	(150)
17	SWP Property Tax	(10)	(15)	(2)	(5)	(32)	(1,620)
18	South County Deficit/Reserve	(28)	(87)	(7)	(27)	(148)	(9,544)
19	Interest Earnings Step 4-	-	-	-	-	-	-
20	Inter-zone Interest Reduce costs by	(1)	(1)	(0)	(0)	(2)	(135)
21	Capital Contributions revenue offsets	-	-	-	-	-	-
22	Other	(1)	(1)	(0)	(0)	(2)	(165)
23	Reserve Requirements	-	-	-	-	-	-
24	**Adjusted Revenue Requirement (FY 23)**	**127**	**133**	**16**	**29**	**304**	**25,157**
25	**Adjusted Revenue Requirement (FY 20 adj)**	(13)	(48)	(4)	(0)	(65)	(3,877)
26							
27	**Total Adjusted Revenue Requirement**	**113**	**85**	**12**	**29**	**239**	**21,280**
28	Volume (KAF)	0.3	0.4	0.1	0.1	0.9	51.1
29							
30	Revenue Requirement ($ per AF)	$ 397	$ 200	$ 241	$ 221		
31							
32	**Adjustments for Agricultural Preservation**	Step 5 - Develop unit costs by customer class					
33	Allocate WU 1% Ad Valorem Prop Tax	-	(69)	-	(18)	(87)	(7,457)
34	Transfer GF 1% Ad valorem Prop Tax	-	-	-	-	-	-
35	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-	-
36	Revenue Requirement ($ per AF)	$ 397	$ 36.9	$ 241	$ 84.0		
37	Step 6 - Rate Design						
38	**Adjustments to Facilitate Conjunctive Use**						
39	Reallocate TW/SW/RW costs	(9)	-	9	-	-	-
40	Water Charge ($ per AF)	$369	$ 36.85	$ 415.60	$ 83.95		
41	Total Revenue ($K)	$105	$16	$21	$11	$152	$13,823

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APPENDIX A - WATER UTILITY CHARGE COMPONENTS AND PROPOSED CHARGES

Table A-1 Proposed Charge Components for Fiscal Year 2022–23

Component	Charge ($/AF)
Basic User, Zone W-2 (North County)	
Agricultural	36.85
M&I	1,724.00
Basic User, Zone W-5 (South County/Llagas Subbasin)	
Agricultural	36.85
M&I	513.00
Basic User, Zone W-7 (South County/Coyote Valley)	
Agricultural	36.85
M&I	582.50
Basic User, Zone W-8 (South County/Uvas and Chesbro)	
Agricultural	36.85
M&I	368.50
Treated Water Surcharge	
Contract	115.00
Non-contract	200.00
Surface Water Charge Water Master	47.10

Table A-2 Proposed Charge Components for Fiscal Year 2022–23

Type of Charge	AG Water ($/AF)	M&I Water ($/AF)
Groundwater Production / Basic User Charge		
Zone W-2	$36.85	$1,724.00
Zone W-5	$36.85	$513.00
Zone W-7	$36.85	$582.50
Zone W-8	$36.85	$368.50
Surface Water[1]		
Other Zone W-2 Deliveries[2]	$83.95	$1,771.10
Other Zone W-5 Deliveries[3]	$83.95	$560.10
Other Zone W-7 Deliveries[4]	$83.95	$629.60
Other Zone W-8 Deliveries[5]	$83.95	$415.60
Treated Water		
Contract[6]	N/A	$1,839.00
Non-contract[7]	N/A	$1,924.00
Recycled Water		
Gilroy	$64.25	$493.00

[1] Surface water charge is the sum of the basic user charge plus the water master charge.
[2] Other Zone W-2 Deliveries = Basic User (AG or M&I @ $36.85/AF or $1,724.00/AF) + Water Master ($47.10/AF).
[3] Other Zone W-5 Deliveries = Basic User (AG or M&I @ $36.85/AF or $513.00/AF) + Water Master ($47.10/AF).
[4] Other Zone W-7 Deliveries = Basic User (AG or M&I @ $36.85/AF or $582.50/AF) + Water Master ($47.10/AF).
[5] Other Zone W-8 Deliveries = Basic User (AG or M&I @ $36.85/AF or $368.50/AF) + Water Master ($47.10/AF).
[6] Treated Water Charge is the sum of Basic User ($1,724.00/AF) and Treated Water Surcharge ($115.00/AF).
[7] The charge for non-contract deliveries is the sum of the basic user charge ($1,724.00/AF) and the treated water surcharge for non- contract water ($200.00/AF).

APPENDIX B - BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Source of Supply	Water Operations Planning	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Groundwater Management Program	36.4%	9.8%	1.0%	47.1%	52.9%	100%	Groundwater Production Ratio
	Districtwide Salary Savings	17.7%	5.0%	0.4%	23.1%	76.9%	100%	Water Usage Ratio
	Drought Emergency Response	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Facilities Environmental Compliance	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Dam Safety Program	20.1%	2.0%	0.4%	22.5%	77.5%	100%	Program Benefit Calculation
	Recycled & Purified Water Program	6.5%	0.0%	0.0%	6.5%	93.5%	100%	Population
	Water Rights	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Imported Water Program	4.7%	6.1%	0.0%	10.8%	89.2%	100%	Imported Water Ratio
	IW San Felipe Division Deliveries	7.2%	9.4%	0.0%	16.6%	83.4%	100%	Program Benefit Calculation
	IW South Bay Aqueduct Deliveries	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	State Water Project Costs	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Water Conservation Program	8.7%	0.4%	0.4%	9.5%	90.5%	100%	Program Benefit Calculation
	Recycled/Purified Water Public Engagement	6.5%	0.0%	0.0%	6.5%	93.5%	100%	Population
	Water Banking Operations	4.7%	6.1%	0.0%	10.8%	89.2%	100%	Imported Water Ratio
	GP5 Reimbursement Program	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	San Felipe Reach 1 Operations	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	SFD Reach 1 Administration	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach1 Ctrl and Ele	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 1 Engineering Other	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 1 Gen Maint	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 2 Operations	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 2 Engineering Other	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 2 Gen Maint	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 3 Operations	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 3 Ctrl and Ele	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 3 Engineering Other	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	San Felipe Reach 3 Gen Maint	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	Wolfe Road Recycled Water Facility	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Transfer-Bethany Pipeline	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Palo Alto Water Reuse Agreement	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	SVAWPC Facility Operations	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	SVAWPC Facility Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Source of Supply	Desalination	17.7%	5.0%	0.4%	23.1%	76.9%	100%	Water Usage Ratio
	Well Ordinance Program	3.5%	1.0%	0.5%	5.0%	95.0%	100%	Well Permits and Inpections
	Source Water Quality Management	17.7%	5.0%	0.4%	23.1%	76.9%	100%	Water Usage Ratio
	Invasive Mussel Prevention	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Delta Conveyance	4.7%	6.1%	0.0%	10.8%	89.2%	100%	Imported Water Ratio
	Local Reservoir/Diversion Planning & Analysis	17.7%	5.0%	0.4%	23.1%	76.9%	100%	Water Usage Ratio
	SCADA Systems Upgrade	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Dams/Reservoir Gen Maint	19.2%	1.9%	0.4%	21.5%	78.5%	100%	Program Benefit Calculation
	San Luis Lowpoint Improvement Program	7.9%	10.3%	0.0%	18.1%	81.9%	100%	CVP Imported Water Ratio
	Adjustments	17.7%	5.0%	0.4%	23.1%	76.9%	100%	Water Usage Ratio
Raw Water Transmission & Distribution	FAHCE/Three Creeks HCP Project	2.6%	3.4%	0.0%	6.0%	94.0%	100%	Coyote Water Supply Ratio
	Facilities Environmental Compliance	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Vasona Pump Station General Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Raw Water T&D Gen'l Oper	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Recycled Water T&D Gen Maint	100.0%	0.0%	0.0%	100.0%	0.0%	100%	Benefits Only South County
	Recharge & Raw Wtr Field Ops	23.8%	13.5%	0.1%	37.3%	62.7%	100%	Groundwater Recharge Ratio
	Recharge & Raw Wtr Field Fac Maint	23.8%	13.5%	0.1%	37.3%	62.7%	100%	Groundwater Recharge Ratio
	Untreated Surface Water Program	30.6%	30.1%	0.5%	61.3%	38.7%	100%	Untreated Water Deliveries Ratio
	SCADA Systems Upgrade	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Raw Water Ctrl & Elec Eng	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Raw Water T&D Eng Other	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	Anderson Hydroelectric Fac Maintenance	7.9%	10.3%	0.0%	18.1%	81.9%	100%	Anderson Water Deliveries Ratio
	Raw Water Trans & Dist Gen Mnt	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries
	RW Corrosion Control	10.2%	6.1%	0.1%	16.3%	83.7%	100%	Raw Water Deliveries

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Water Treatment and Treated Water Transmission & Distribution	Environmental Compliance Support	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Treatment Plant Process & Commissioning	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	W T General Water Quality	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Water Treatment Plant - Engineering Other	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	PWTP Operations General	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Penitencia WTP General Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	STWTP - General Operations	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Santa Teresa WTP General Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	RWTP General Operations	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Rinconada WTP General Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Water District Laboratory	10.0%	0.41%	0.03%	10.5%	89.5%	100%	Lab Analyses
	SF/SCVWD Intertie General Operations	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Campbell Wellfield Operations	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Campbell Wellfield Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Treated Water Ctrl & Elec Eng	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	SCADA Systems Upgrade	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	SF/SCVWD Intertie General Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Treated Water T&D IPU Ops Eng	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	SCADA Systems Upgrade	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	Treated Water T&D Gen Maintenance	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit
	TW T&D Corrosion Control	0.0%	0.0%	0.0%	0.0%	100.0%	100%	No South County Benefit

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Administration & General	Unscoped Operations Activities	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	WU Asset Protection Support	2.1%	0.6%	0.0%	2.7%	97%	100%	Program Benefit Calculation
	Energy Management	1.2%	0.3%	0.0%	1.5%	98%	100%	Labor Hours
	Grants Management	30.1%	8.4%	0.6%	39.1%	61%	100%	Program Benefit Calculation
	Integrated Regional Water Mgmt	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	Rental Expense San Pedro,MH	100.0%	0.0%	0.0%	100.0%	0%	100%	Benefits only South County
	Rental Expense Coyote	0.0%	100.0%	0.0%	100.0%	0%	100%	No South County Benefit
	WUE Administration	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	District Asset Management Framework	17.7%	5.0%	0.4%	23.1%	77%	100%	No South County Benefit
	Climate Change Adaptation/Mitig	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	Office of Integrated Wtr Mgmt	17.7%	5.0%	0.4%	23.1%	77%	100%	Program Benefit Calculation
	Lands Management Program	17.7%	5.0%	0.4%	23.1%	77%	100%	Program Benefit Calculation
	Workforce Development Technical Training Program	17.7%	5.0%	0.4%	23.1%	77%	100%	No South County Benefit
	Welding Services	1.3%	0.4%	0.0%	1.6%	98%	100%	Program Benefit Calculation
	Water Revenue Program	48.0%	14.0%	1.0%	63.0%	37%	100%	Labor Hours
	Water Use Measurement	45.9%	2.0%	2.2%	50.1%	50%	100%	Labor Hours
	LT Financial Planning & Rate S	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	WU Customer Relations&Outreach	6.5%	0.0%	0.0%	6.5%	94%	100%	Population
	Water Supply Planning	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	Water Resources Env Planning & Permitting	4.6%	1.3%	0.1%	6.0%	94%	100%	Program Benefit Calculation
	SCADA Network Administration	10.2%	6.1%	0.1%	16.3%	84%	100%	Raw Water Deliveries
	Emergency Management	6.5%	0.0%	0.0%	6.5%	94%	100%	Population
	Tree Maintenance Program	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	Inter Agency Urban Runoff Program	10.2%	6.1%	0.1%	16.3%	84%	100%	Raw Water Deliveries
	HAZMAT Emergency Response	5.9%	0.6%	0.3%	6.9%	93%	100%	Emergency Response Events
	Hydrologic Data Msrmt & Management	7.0%	15.0%	12.0%	34.0%	66%	100%	Stream Gauge Location
	Warehouse Services	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio
	X Valley Subsidence Survey	2.6%	1.0%	0.6%	4.2%	96%	100%	Program Benefit Calculation
	District Real Property Admin	17.7%	5.0%	0.4%	23.1%	77%	100%	Program Benefit Calculation
	Adjustment for Anticipated Budget Changes	17.7%	5.0%	0.4%	23.1%	77%	100%	Water Usage Ratio

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $)

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Source of Supply	Water Operations Planning	$ 82	$ 49	$ 0	$ 131	$ 673	$ 805	Raw Water Deliveries
	Groundwater Management Program	$ 2,142	$ 577	$ 58	$ 2,777	$ 3,115	$ 5,893	Groundwater Production Ratio
	Districtwide Salary Savings	$ (207)	$ (58)	$ (4)	$ (269)	$ (896)	$ (1,165)	Water Usage Ratio
	Drought Emergency Response	$ -	$ -	$ -	$ -	$ 13,394	$ 13,394	No South County Benefit
	Facilities Environmental Compliance	$ 5	$ 3	$ 0	$ 8	$ 42	$ 50	Raw Water Deliveries
	Dam Safety Program	$ 427	$ 41	$ 8	$ 476	$ 1,641	$ 2,117	Program Benefit Calculation
	Recycled & Purified Water Program	$ 510	$ -	$ -	$ 510	$ 7,331	$ 7,841	Population
	Water Rights	$ 79	$ 47	$ 0	$ 126	$ 645	$ 771	Raw Water Deliveries
	Imported Water Program	$ 286	$ 372	$ -	$ 658	$ 5,418	$ 6,076	Imported Water Ratio
	IW San Felipe Division Deliveries	$ 2,032	$ 2,646	$ -	$ 4,677	$ 23,465	$ 28,142	Program Benefit Calculation
	IW South Bay Aqueduct Deliveries	$ -	$ -	$ -	$ -	$ 12,039	$ 12,039	No South County Benefit
	State Water Project Costs	$ -	$ -	$ -	$ -	$ 28,257	$ 28,257	No South County Benefit
	Water Conservation Program	$ 928	$ 43	$ 43	$ 1,013	$ 9,651	$ 10,664	Program Benefit Calculation
	Recycled/Purified Water Public Engagement	$ 87	$ -	$ -	$ 87	$ 1,248	$ 1,334	Population
	Water Banking Operations	$ 453	$ 590	$ -	$ 1,043	$ 8,582	$ 9,625	Imported Water Ratio
	GP5 Reimbursement Program	$ -	$ -	$ -	$ -	$ 4,229	$ 4,229	No South County Benefit
	San Felipe Reach 1 Operations	$ 58	$ 76	$ -	$ 134	$ 605	$ 739	CVP Imported Water Ratio
	SFD Reach 1 Administration	$ 1	$ 1	$ -	$ 2	$ 10	$ 12	CVP Imported Water Ratio
	San Felipe Reach1 Ctrl and Ele	$ 33	$ 42	$ -	$ 75	$ 338	$ 413	CVP Imported Water Ratio
	San Felipe Reach 1 Engineering Other	$ 38	$ 50	$ -	$ 88	$ 398	$ 486	CVP Imported Water Ratio
	San Felipe Reach 1 Gen Maint	$ 74	$ 96	$ -	$ 171	$ 770	$ 940	CVP Imported Water Ratio
	San Felipe Reach 2 Operations	$ 5	$ 7	$ -	$ 13	$ 57	$ 69	CVP Imported Water Ratio
	San Felipe Reach 2 Engineering Other	$ 15	$ 20	$ -	$ 35	$ 158	$ 192	CVP Imported Water Ratio
	San Felipe Reach 2 Gen Maint	$ 13	$ 17	$ -	$ 30	$ 135	$ 165	CVP Imported Water Ratio
	San Felipe Reach 3 Operations	$ 12	$ 15	$ -	$ 27	$ 274	$ 301	CVP Imported Water Ratio
	San Felipe Reach 3 Ctrl and Ele	$ 14	$ 18	$ -	$ 33	$ 326	$ 359	CVP Imported Water Ratio
	San Felipe Reach 3 Engineering Other	$ 5	$ 7	$ -	$ 12	$ 117	$ 129	CVP Imported Water Ratio
	San Felipe Reach 3 Gen Maint	$ 23	$ 30	$ -	$ 52	$ 1,101	$ 1,154	CVP Imported Water Ratio
	Wolfe Road Recycled Water Facility	$ -	$ -	$ -	$ -	$ 155	$ 155	No South County Benefit
	Transfer-Bethany Pipeline	$ -	$ -	$ -	$ -	$ 1,545	$ 1,545	No South County Benefit
	Palo Alto Water Reuse Agreement	$ -	$ -	$ -	$ -	$ 2,618	$ 2,618	No South County Benefit
	SVAWPC Facility Operations	$ -	$ -	$ -	$ -	$ 3,053	$ 3,053	No South County Benefit
	SVAWPC Facility Maintenance	$ -	$ -	$ -	$ -	$ 3,172	$ 3,172	No South County Benefit

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $) ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Source of Supply	Desalination	$ 9	$ 3	$ 0	$ 12	$ 41	$ 53	Water Usage Ratio
	Well Ordinance Program	$ 86	$ 25	$ 12	$ 123	$ 2,343	$ 2,467	Well Permits and Inpections
	Source Water Quality Management	$ 84	$ 24	$ 2	$ 109	$ 365	$ 474	Water Usage Ratio
	Invasive Mussel Prevention	$ 78	$ 46	$ 0	$ 124	$ 635	$ 760	Raw Water Deliveries
	Delta Conveyance	$ 145	$ 189	$ -	$ 333	$ 2,745	$ 3,079	Imported Water Ratio
	Local Reservoir/Diversion Planning & Analysis	$ 489	$ 137	$ 10	$ 637	$ 2,121	$ 2,758	Water Usage Ratio
	SCADA Systems Upgrade	$ 14	$ 9	$ 0	$ 23	$ 118	$ 141	Raw Water Deliveries
	Dams/Reservoir Gen Maint	$ 779	$ 76	$ 15	$ 870	$ 3,180	$ 4,050	Program Benefit Calculation
	San Luis Lowpoint Improvement Program	$ 10	$ 14	$ -	$ 24	$ 109	$ 133	CVP Imported Water Ratio
	Adjustments	$ 1,087	$ 304	$ 23	$ 1,414	$ 1,709	$ 3,123	Water Usage Ratio
		$ 9,896	$ 5,514	$ 169	$ 15,579	$ 147,032	$ 162,611	
Raw Water Transmission & Distribution	FAHCE/Three Creeks HCP Project	$ 104	$ 135	$ -	$ 239	$ 3,711	$ 3,950	Coyote Water Supply Ratio
	Facilities Environmental Compliance	$ 9	$ 5	$ 0	$ 15	$ 75	$ 89	Raw Water Deliveries
	Vasona Pump Station General Maintenance	$ -	$ -	$ -	$ -	$ 252	$ 252	No South County Benefit
	Raw Water T&D Gen'l Oper	$ 190	$ 113	$ 1	$ 303	$ 1,553	$ 1,857	Raw Water Deliveries
	Recycled Water T&D Gen Maint	$ 274	$ -	$ -	$ 274	$ -	$ 274	Benefits Only South County
	Recharge & Raw Wtr Field Ops	$ 842	$ 478	$ 4	$ 1,324	$ 2,223	$ 3,546	Groundwater Recharge Ratio
	Recharge & Raw Wtr Field Fac Maint	$ 592	$ 336	$ 3	$ 931	$ 1,563	$ 2,494	Groundwater Recharge Ratio
	Untreated Surface Water Program	$ 150	$ 148	$ 3	$ 301	$ 190	$ 491	Untreated Water Deliveries Ratio
	SCADA Systems Upgrade	$ 18	$ 11	$ 0	$ 29	$ 149	$ 178	Raw Water Deliveries
	Raw Water Ctrl & Elec Eng	$ 82	$ 49	$ 0	$ 132	$ 675	$ 807	Raw Water Deliveries
	Raw Water T&D Eng Other	$ 170	$ 101	$ 1	$ 272	$ 1,393	$ 1,666	Raw Water Deliveries
	Anderson Hydroelectric Fac Maintenance	$ 13	$ 17	$ -	$ 29	$ 133	$ 163	Anderson Water Deliveries Ratio
	Raw Water Trans & Dist Gen Mnt	$ 283	$ 168	$ 1	$ 452	$ 2,316	$ 2,769	Raw Water Deliveries
	RW Corrosion Control	$ 74	$ 44	$ 0	$ 118	$ 607	$ 725	Raw Water Deliveries
		$ 2,802	$ 1,605	$ 13	$ 4,420	$ 14,840	$ 19,261	

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $) ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Water Treatment and Treated Water Transmission & Distribution	Environmental Compliance Support	$ -	$ -	$ -	$ -	$ 606	$ 606	No South County Benefit
	Treatment Plant Process & Commissioning	$ -	$ -	$ -	$ -	$ 573	$ 573	No South County Benefit
	W T General Water Quality	$ -	$ -	$ -	$ -	$ 3,230	$ 3,230	No South County Benefit
	Water Treatment Plant - Engineering Other	$ -	$ -	$ -	$ -	$ 439	$ 439	No South County Benefit
	PWTP Operations General	$ -	$ -	$ -	$ -	$ 6,973	$ 6,973	No South County Benefit
	Penitencia WTP General Maintenance	$ -	$ -	$ -	$ -	$ 3,376	$ 3,376	No South County Benefit
	STWTP - General Operations	$ -	$ -	$ -	$ -	$ 7,247	$ 7,247	No South County Benefit
	Santa Teresa WTP General Maintenance	$ -	$ -	$ -	$ -	$ 3,952	$ 3,952	No South County Benefit
	RWTP General Operations	$ -	$ -	$ -	$ -	$ 9,980	$ 9,980	No South County Benefit
	Rinconada WTP General Maintenance	$ -	$ -	$ -	$ -	$ 4,472	$ 4,472	No South County Benefit
	Water District Laboratory	$ 685	$ 28	$ 2	$ 715	$ 6,123	$ 6,838	Lab Analyses
	SF/SCVWD Intertie General Operations	$ -	$ -	$ -	$ -	$ 205	$ 205	No South County Benefit
	Campbell Wellfield Operations	$ -	$ -	$ -	$ -	$ 112	$ 112	No South County Benefit
	Campbell Wellfield Maintenance	$ -	$ -	$ -	$ -	$ 117	$ 117	No South County Benefit
	Treated Water Ctrl & Elec Eng	$ -	$ -	$ -	$ -	$ 2,858	$ 2,858	No South County Benefit
	SCADA Systems Upgrade	$ -	$ -	$ -	$ -	$ 562	$ 562	No South County Benefit
	SF/SCVWD Intertie General Maintenance	$ -	$ -	$ -	$ -	$ 187	$ 187	No South County Benefit
	Treated Water T&D IPU Ops Eng	$ -	$ -	$ -	$ -	$ 683	$ 683	No South County Benefit
	SCADA Systems Upgrade	$ -	$ -	$ -	$ -	$ 56	$ 56	No South County Benefit
	Treated Water T&D Gen Maintenance	$ -	$ -	$ -	$ -	$ 1,540	$ 1,540	No South County Benefit
	TW T&D Corrosion Control	$ -	$ -	$ -	$ -	$ 577	$ 577	No South County Benefit
		$ 685	$ 28	$ 2	$ 715	$ 53,866	**$ 54,582**	

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $) ... CONTINUED

Cost Center	Project Name	South County Zone W-5 Allocation	South County Zone W-7 Allocation	South County Zone W-8 Allocation	South County Allocation	North County Allocation	Total FY 2023 Allocation	Basis of Allocation
Administration & General	Unscoped Operations Activities	$ 27	$ 8	$ 1	$ 36	$ 119	$ 154.500	Water Usage Ratio
	WU Asset Protection Support	$ 29	$ 8	$ 1	$ 38	$ 1,354	$ 1,392.125	Program Benefit Calculation
	Energy Management	$ 4	$ 1	$ 0	$ 5	$ 299	$ 303.776	Labor Hours
	Grants Management	$ 191	$ 53	$ 4	$ 248	$ 386	$ 634.182	Program Benefit Calculation
	Integrated Regional Water Mgmt	$ 30	$ 8	$ 1	$ 39	$ 130	$ 168.650	Water Usage Ratio
	Rental Expense San Pedro,MH	$ 29	$ -	$ -	$ 29	$ -	$ 28.965	Benefits only South County
	Rental Expense Coyote	$ -	$ 163	$ -	$ 163	$ -	$ 162.668	No South County Benefit
	WUE Administration	$ 2,223	$ 622	$ 47	$ 2,892	$ 9,633	$ 12,525.089	Water Usage Ratio
	District Asset Management Framework	$ 358	$ 100	$ 7	$ 466	$ 1,551	$ 2,016.301	No South County Benefit
	Climate Change Adaptation/Mitig	$ 37	$ 10	$ 1	$ 49	$ 162	$ 211.045	Water Usage Ratio
	Office of Integrated Wtr Mgmt	$ 223	$ 62	$ 5	$ 290	$ 965	$ 1,255.104	Program Benefit Calculation
	Lands Management Program	$ 65	$ 18	$ 1	$ 85	$ 282	$ 366.938	Program Benefit Calculation
	Workforce Development Technical Training Program	$ 81	$ 23	$ 2	$ 106	$ 352	$ 457.036	No South County Benefit
	Welding Services	$ 7	$ 2	$ 0	$ 9	$ 548	$ 556.648	Program Benefit Calculation
	Water Revenue Program	$ 1,042	$ 305	$ 22	$ 1,369	$ 804	$ 2,173.401	Labor Hours
	Water Use Measurement	$ 1,062	$ 46	$ 52	$ 1,159	$ 1,155	$ 2,314.639	Labor Hours
	LT Financial Planning & Rate S	$ 90	$ 25	$ 2	$ 117	$ 388	$ 505.083	Water Usage Ratio
	WU Customer Relations&Outreach	$ 69	$ -	$ -	$ 69	$ 996	$ 1,064.769	Population
	Water Supply Planning	$ 640	$ 179	$ 13	$ 832	$ 2,773	$ 3,605.322	Water Usage Ratio
	Water Resources Env Planning & Permitting	$ 92	$ 26	$ 2	$ 120	$ 1,875	$ 1,994.801	Program Benefit Calculation
	SCADA Network Administration	$ 44	$ 26	$ 0	$ 71	$ 362	$ 432.966	Raw Water Deliveries
	Emergency Management	$ 94	$ -	$ -	$ 94	$ 1,358	$ 1,452.687	Population
	Tree Maintenance Program	$ 76	$ 21	$ 2	$ 98	$ 328	$ 426.005	Water Usage Ratio
	Inter Agency Urban Runoff Program	$ 56	$ 33	$ 0	$ 90	$ 459	$ 548.149	Raw Water Deliveries
	HAZMAT Emergency Response	$ 6	$ 1	$ 0	$ 7	$ 89	$ 95.577	Emergency Response Events
	Hydrologic Data Msrmt & Management	$ 85	$ 182	$ 145	$ 412	$ 800	$ 1,212.350	Stream Gauge Location
	Warehouse Services	$ 153	$ 43	$ 3	$ 199	$ 663	$ 861.583	Water Usage Ratio
	X Valley Subsidence Survey	$ 11	$ 4	$ 3	$ 17	$ 401	$ 418.873	Program Benefit Calculation
	District Real Property Admin	$ 89	$ 25	$ 2	$ 116	$ 386	$ 501.821	Program Benefit Calculation
	Adjustment for Anticipated Budget Changes	$ (1,590)	$ (281)	$ (34)	$ (1,905)	$ (6,801)	$ (8,706)	Water Usage Ratio
		$ 5,322	$ 1,714	$ 282	$ 7,317	$ 21,818	$ 29,135	
	TOTAL	**18,705**	**8,861**	**466**	**28,032**	**237,557**	**265,589**	

Note: San Felipe Reach 3 Projects (Source of Supply) have been adjusted for the Coyote Pumping Plant costs.

APPENDIX C – SOUTH COUNTY CAPITAL COST RECOVERY

SOUTH COUNTY ZONE W-5 CAPITAL COST RECOVERY

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-5 %	South County Zone W-5 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-5
San Pedro Recharge House	$ 700	100.0%	$ 700	$ 47	FY 31	Benefits Only South County
South County Recycling I	$ 7,232	100.0%	$ 7,232	$ 481	FY 31	Benefits Only South County
South County Recycling II	$ 118	100.0%	$ 118	$ 8	FY 33	Benefits Only South County
South County Recycling III	$ 1,721	100.0%	$ 1,721	$ 115	FY 33	Benefits Only South County
Water Banking Rights	$ 6,226	3.6%	$ 225	$ 15	FY 35	Total Imported Water Ratio
Dam Instrumentation	$ 6,243	16.0%	$ 999	$ 66	FY 41	Program Benefit Calculation
Geodetic Control Maintenance	$ 236	26.7%	$ 63	$ 4	FY 36	Survey Analysis
Dam Maintenance Mitigation	$ 244	16.7%	$ 41	$ 3	FY 45	Program Benefit Calculation
South County Recycled Water Masterplan, Immediate Term, SCRWA Filter U	$ 3,257	100.0%	$ 3,257	$ 216	FY 37	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1A	$ 4,314	100.0%	$ 4,314	$ 286	FY 42	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1B	$ 43,338	100.0%	$ 43,338	$ 2,327	FY 52	Benefits Only South County
South County Recycled Water Fund	$ 8,678	100.0%	$ 8,678	$ 450	FY 50	Benefits Only South County
Water Banking FY 2006	$ 18,895	4.1%	$ 769	$ 51	FY 36	Total Imported Water Ratio
San Felipe Division Capital	$ 11,549	5.5%	$ 631	$ 631	N/A	Repayment Cost Distribution
Pacheco Conduit Inspection and Rehabilitation	$ 6,696	8.1%	$ 542	$ 28	FY 48	CVP Imported Water Ratio
Pacheco Pumping Plant Regulating Tank Recoating	$ 2,550	7.7%	$ 196	$ 13	FY 42	CVP Imported Water Ratio
San Felipe Communications Cable Replacement	$ 235	7.7%	$ 18	$ 1	FY 42	CVP Imported Water Ratio
Small Caps, San Felipe Reach 1	$ 1,624	8.1%	$ 132	$ 132	N/A	CVP Imported Water Ratio
Santa Clara Tunnel Landslide	$ 4,509	6.8%	$ 308	$ 20	FY 39	CVP Imported Water Ratio
Santa Clara Tunnel Landslide Mitigation	$ 217	7.6%	$ 17	$ 1	FY 39	CVP Imported Water Ratio
Small Caps, San Felipe Reach 3	$ 376	8.1%	$ 30	$ 30	N/A	CVP Imported Water Ratio
Water Infrastructure Reliability Program	$ 2,134	1.1%	$ 24	$ 2	FY 36	Program Benefit Calculation
Water Infrastructure Baseline Improvement	$ 2,403	2.7%	$ 66	$ 4	FY 38	Spare Pipe Usage
Coyote Dam Control Building Improvements	$ 576	8.9%	$ 51	$ 3	FY 42	Anderson Deliveries Ratio

APPENDIX C

SOUTH COUNTY ZONE W-5 CAPITAL COST RECOVERY ... CONTINUED

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-5 %	South County Zone W-5 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-5
Pacheco Pumping Plant ASD Replacement	$ 18,518	8.4%	$ 1,557	$ 103	FY 45	CVP Imported Water Ratio
Radio Repeater Infill	$ 5	8.5%	$ 0	$ 0	FY 42	Water Usage Ratio
Santa Clara Conduit Rehabilitation	$ 1,814	7.7%	$ 139	$ 9	FY 42	CVP Imported Water Ratio
Raw Water Control System	$ 9,188	2.8%	$ 260	$ 17	FY 37	Program Benefit Calculation
Small Caps, Raw Water Transmission and Distribution	$ 696	10.6%	$ 74	$ 74	N/A	Raw Water Usage
Main and Madrone Pipeline Restoration	$ 11,378	87.9%	$ 10,001	$ 519	FY 48	Benefits Only South County
Inf Reliability Master Plan	$ 2,065	9.4%	$ 194	$ 12	FY 46	Water Usage Ratio
Water Protection	$ 11,387	1.8%	$ 200	$ 13	FY 45	Program Benefit Calculation
Microwave Telecommunications	$ 4,595	8.8%	$ 403	$ 27	FY 44	Water Usage Ratio
Capital Warranty Services	$ 179	17.6%	$ 31	$ 31	N/A	Water Usage Ratio
5-Year Pipeline Rehabilitation	$ 22,059	3.5%	$ 775	$ 49	FY 47	Program Benefit Calculation
Pipeline Hydraulic Reliability Upgrades	$ 335	1.8%	$ 6	$ 0	FY 45	Program Benefit Calculation
WTP WQL Network Equipment	$ 1,331	17.6%	$ 234	$ 234	N/A	Water Usage Ratio
Winfield Capital Improvement	$ 481	9.7%	$ 47	$ 2	FY 48	Water Usage Ratio
Corp Yard Relocation	$ 26	7.8%	$ 2	$ 0	FY 40	Water Usage Ratio
Information Systems Management	$ 5,802	7.5%	$ 433	$ 29	FY 40	Water Usage Ratio
PeopleSoft Upgrade	$ 78	7.5%	$ 6	$ 0	FY 39	Water Usage Ratio
PeopleSoft System Upgrade and Expansion	$ 1,217	9.4%	$ 114	$ 7	FY 46	Water Usage Ratio
Uvas Property Acquisition	$ 1,251	97.7%	$ 1,223	$ 77	FY 46	Benefits Only South County
Capital Construction Management System	$ 2,806	17.6%	$ 493	$ 26	FY 52	Water Usage Ratio
IT Capital Fund Transfers	$ 2,439	17.6%	$ 428	$ 428	N/A	Water Usage Ratio
Capital Program Administration	$ 2,054	18.3%	$ 377	$ 377	N/A	Total Capital Cost Ratio
Grand Total	**$ 233,775**		**$ 90,465**	**$ 6,970**		

* Capital projects that benefit South County are paid for over the life of the project (typically 30 years) beginning when the project is completed

APPENDIX C

SOUTH COUNTY ZONE W-7 CAPITAL COST RECOVERY

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-7 %	South County Zone W-7 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-7
San Pedro Recharge House	$ 700	0.0%	$ -	$ -	FY 31	Benefits Only South County
South County Recycling I	$ 7,232	0.0%	$ -	$ -	FY 31	Benefits Only South County
South County Recycling II	$ 118	0.0%	$ -	$ -	FY 33	Benefits Only South County
South County Recycling III	$ 1,721	0.0%	$ -	$ -	FY 33	Benefits Only South County
Water Banking Rights	$ 6,226	4.4%	$ 273	$ 18	FY 35	Total Imported Water Ratio
Dam Instrumentation	$ 6,243	4.6%	$ 289	$ 19	FY 41	Program Benefit Calculation
Geodetic Control Maintenance	$ 236	14.0%	$ 33	$ 2	FY 36	Survey Analysis
Dam Maintenance Mitigation	$ 244	4.8%	$ 12	$ 1	FY 45	Program Benefit Calculation
South County Recycled Water Masterplan, Immediate Term, SCRWA Filter U	$ 3,257	0.0%	$ -	$ -	FY 37	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1A	$ 4,314	0.0%	$ -	$ -	FY 42	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1B	$ 43,338	0.0%	$ -	$ -	FY 52	Benefits Only South County
South County Recycled Water Fund	$ 8,678	0.0%	$ -	$ -	FY 50	Benefits Only South County
Water Banking FY 2006	$ 18,895	4.9%	$ 932	$ 62	FY 36	Total Imported Water Ratio
San Felipe Division Capital	$ 10,982	6.6%	$ 728	$ 766	N/A	Repayment Cost Distribution
Pacheco Conduit Inspection and Rehabilitation	$ 6,696	10.9%	$ 727	$ 34	FY 48	CVP Imported Water Ratio
Pacheco Pumping Plant Regulating Tank Recoating	$ 2,550	9.3%	$ 238	$ 16	FY 42	CVP Imported Water Ratio
San Felipe Communications Cable Replacement	$ 235	9.3%	$ 22	$ 1	FY 42	CVP Imported Water Ratio
Small Caps, San Felipe Reach 1	$ 1,624	9.8%	$ 160	$ 160	N/A	CVP Imported Water Ratio
Santa Clara Tunnel Landslide	$ 4,509	8.3%	$ 373	$ 25	FY 39	CVP Imported Water Ratio
Santa Clara Tunnel Landslide Mitigation	$ 217	9.3%	$ 20	$ 1	FY 39	CVP Imported Water Ratio
Small Caps, San Felipe Reach 3	$ 376	9.8%	$ 37	$ 37	N/A	CVP Imported Water Ratio
Water Infrastructure Reliability Program	$ 2,134	0.3%	$ 7	$ 0	FY 36	Program Benefit Calculation
Water Infrastructure Baseline Improvement	$ 2,403	0.8%	$ 19	$ 1	FY 38	Spare Pipe Usage
Coyote Dam Control Building Improvements	$ 576	10.7%	$ 62	$ 4	FY 42	Anderson Deliveries Ratio

APPENDIX C

SOUTH COUNTY ZONE W-7 CAPITAL COST RECOVERY ... CONTINUED

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-7 %	South County Zone W-7 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-7
Pacheco Pumping Plant ASD Replacement	$ 18,518	10.2%	$ 1,888	$ 125	FY 45	CVP Imported Water Ratio
Radio Repeater Infill	$ 5	2.4%	$ 0	$ 0	FY 42	Water Usage Ratio
Santa Clara Conduit Rehabilitation	$ 1,814	9.3%	$ 169	$ 11	FY 42	CVP Imported Water Ratio
Raw Water Control System	$ 9,188	1.5%	$ 136	$ 9	FY 37	Program Benefit Calculation
Small Caps, Raw Water Transmission and Distribution	$ 696	5.7%	$ 40	$ 40	N/A	Raw Water Usage
Main and Madrone Pipeline Restoration	$ 11,378	12.1%	$ 1,377	$ 71	FY 48	Benefits Only South County
Inf Reliability Master Plan	$ 2,065	2.7%	$ 56	$ 4	FY 46	Water Usage Ratio
Water Protection	$ 11,387	0.5%	$ 58	$ 4	FY 45	Program Benefit Calculation
Microwave Telecommunications	$ 4,595	2.0%	$ 93	$ 8	FY 44	Water Usage Ratio
Capital Warranty Services	$ 179	5.0%	$ 9	$ 9	N/A	Water Usage Ratio
5-Year Pipeline Rehabilitation	$ 22,059	1.0%	$ 221	$ 14	FY 47	Program Benefit Calculation
Pipeline Hydraulic Reliability Upgrades	$ 335	0.5%	$ 2	$ 0	FY 45	Program Benefit Calculation
WTP WQL Network Equipment	$ 1,331	5.0%	$ 67	$ 67	N/A	Water Usage Ratio
Winfield Capital Improvement	$ 481	2.8%	$ 13	$ 1	FY 48	Water Usage Ratio
Corp Yard Relocation	$ 26	7.8%	$ 2	$ 0	FY 40	Water Usage Ratio
Information Systems Management	$ 5,802	2.2%	$ 125	$ 8	FY 40	Water Usage Ratio
PeopleSoft Upgrade	$ 78	2.2%	$ 2	$ 0	FY 39	Water Usage Ratio
PeopleSoft System Upgrade and Expansion	$ 1,217	2.7%	$ 33	$ 2	FY 46	Water Usage Ratio
Uvas Property Acquisition	$ 1,251	0.0%	$ -	$ -	FY 46	Benefits Only South County
Capital Construction Management System	$ 2,806	5.0%	$ 141	$ 8	FY 52	Water Usage Ratio
IT Capital Fund Transfers	$ 2,439	5.0%	$ 123	$ 123	N/A	Water Usage Ratio
Capital Program Administration	$ 2,054	4.6%	$ 94	$ 94	N/A	Total Capital Cost Ratio
Grand Total	**$ 233,207**		**$ 8,579**	**$ 1,746**		

* Capital projects that benefit South County are paid for over the life of the project (typically 30 years) beginning when the project is completed

APPENDIX C

SOUTH COUNTY ZONE W-8 CAPITAL COST RECOVERY

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-8 %	South County Zone W-8 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-8
San Pedro Recharge House	$ 700	0.0%	$ -	$ -	FY 31	Benefits Only South County
South County Recycling I	$ 7,232	0.0%	$ -	$ -	FY 31	Benefits Only South County
South County Recycling II	$ 118	0.0%	$ -	$ -	FY 33	Benefits Only South County
South County Recycling III	$ 1,721	0.0%	$ -	$ -	FY 33	Benefits Only South County
Water Banking Rights	$ 6,226	0.0%	$ -	$ -	FY 35	Total Imported Water Ratio
Dam Instrumentation	$ 6,243	0.4%	$ 23	$ 2	FY 41	Program Benefit Calculation
Geodetic Control Maintenance	$ 236	0.3%	$ 1	$ 0	FY 36	Survey Analysis
Dam Maintenance Mitigation	$ 244	0.4%	$ 1	$ 0	FY 45	Program Benefit Calculation
South County Recycled Water Masterplan, Immediate Term, SCRWA Filter U	$ 3,257	0.0%	$ -	$ -	FY 37	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1A	$ 4,314	0.0%	$ -	$ -	FY 42	Benefits Only South County
South County Recycled Water Masterplan, Short-Term Implementation 1B	$ 43,338	0.0%	$ -	$ -	FY 52	Benefits Only South County
South County Recycled Water Fund	$ 8,678	0.0%	$ -	$ -	FY 50	Benefits Only South County
Water Banking FY 2006	$ 18,895	0.0%	$ -	$ -	FY 36	Total Imported Water Ratio
San Felipe Division Capital	$ 11,549	0.0%	$ -	$ -	N/A	Repayment Cost Distribution
Pacheco Conduit Inspection and Rehabilitation	$ 6,696	0.0%	$ -	$ -	FY 48	CVP Imported Water Ratio
Pacheco Pumping Plant Regulating Tank Recoating	$ 2,550	0.0%	$ -	$ -	FY 42	CVP Imported Water Ratio
San Felipe Communications Cable Replacement	$ 235	0.0%	$ -	$ -	FY 42	CVP Imported Water Ratio
Small Caps, San Felipe Reach 1	$ 1,624	0.0%	$ -	$ -	N/A	CVP Imported Water Ratio
Santa Clara Tunnel Landslide	$ 4,509	0.0%	$ -	$ -	FY 39	CVP Imported Water Ratio
Santa Clara Tunnel Landslide Mitigation	$ 217	0.0%	$ -	$ -	FY 39	CVP Imported Water Ratio
Small Caps, San Felipe Reach 3	$ 376	0.0%	$ -	$ -	N/A	CVP Imported Water Ratio
Water Infrastructure Reliability Program	$ 2,134	0.0%	$ 1	$ 0	FY 36	Program Benefit Calculation
Water Infrastructure Baseline Improvement	$ 2,403	0.1%	$ 2	$ 0	FY 38	Spare Pipe Usage
Coyote Dam Control Building Improvements	$ 576	0.0%	$ -	$ -	FY 42	Anderson Deliveries Ratio

APPENDIX C

SOUTH COUNTY ZONE W-8 CAPITAL COST RECOVERY ... CONTINUED

(In Thousands $)						
Project Name	Total Project Cost	South County Zone W-8 %	South County Zone W-8 Cost	FY 2023 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to South County Zone W-8
Pacheco Pumping Plant ASD Replacement	$ 18,518	0.0%	$ -	$ -	FY 45	CVP Imported Water Ratio
Radio Repeater Infill	$ 5	0.2%	$ 0	$ 0	FY 42	Water Usage Ratio
Santa Clara Conduit Rehabilitation	$ 1,814	0.0%	$ -	$ -	FY 42	CVP Imported Water Ratio
Raw Water Control System	$ 9,188	0.0%	$ 2	$ 0	FY 37	Program Benefit Calculation
Small Caps, Raw Water Transmission and Distribution	$ 696	0.1%	$ 0	$ 0	N/A	Raw Water Usage
Main and Madrone Pipeline Restoration	$ 11,378	0.0%	$ -	$ -	FY 48	Benefits Only South County
Inf Reliability Master Plan	$ 2,065	0.2%	$ 4	$ 0	FY 46	Water Usage Ratio
Water Protection	$ 11,387	0.0%	$ 5	$ 0	FY 45	Program Benefit Calculation
Microwave Telecommunications	$ 4,595	0.2%	$ 7	$ 1	FY 44	Water Usage Ratio
Capital Warranty Services	$ 179	0.4%	$ 1	$ 1	N/A	Water Usage Ratio
5-Year Pipeline Rehabilitation	$ 22,059	0.1%	$ 18	$ 1	FY 47	Program Benefit Calculation
Pipeline Hydraulic Reliability Upgrades	$ 335	0.0%	$ 0	$ 0	FY 45	Program Benefit Calculation
WTP WQL Network Equipment	$ 1,331	0.4%	$ 5	$ 5	N/A	Water Usage Ratio
Winfield Capital Improvement	$ 481	0.2%	$ 1	$ 0	FY 48	Water Usage Ratio
Corp Yard Relocation	$ 26	7.8%	$ 2	$ 0	FY 40	Water Usage Ratio
Information Systems Management	$ 5,802	0.2%	$ 10	$ 1	FY 40	Water Usage Ratio
PeopleSoft Upgrade	$ 78	0.2%	$ 0	$ 0	FY 39	Water Usage Ratio
PeopleSoft System Upgrade and Expansion	$ 1,217	0.2%	$ 3	$ 0	FY 46	Water Usage Ratio
Uvas Property Acquisition	$ 1,251	2.3%	$ 28	$ 2	FY 46	Benefits Only South County
Capital Construction Management System	$ 2,806	0.4%	$ 11	$ 1	FY 52	Water Usage Ratio
IT Capital Fund Transfers	$ 2,439	0.4%	$ 9	$ 9	N/A	Water Usage Ratio
Capital Program Administration	$ 2,054	0.1%	$ 1	$ 1	N/A	Total Capital Cost Ratio
Grand Total	**$ 233,775**		**$ 135**	**$ 24**		

* Capital projects that benefit South County are paid for over the life of the project (typically 30 years) beginning when the project is completed

APPENDIX D – ACRONYMS

ADSR	Anderson Dam Seismic Retrofit Project
ADTP	Anderson Dam Tunnel Project
AF	Acre-Foot or Acre-Feet
AFY	Acre-Feet of Year
AG	Agriculture
AMM	Avoidance and Minimization Measures
AWPF	Advanced Water Purification Facility
Basin	San Joaquin Basin
Bay-Delta Plan	San Francisco/Sacramento-San Joaquin Delta Estuary
Board	Board of Directors
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CIP	Capital Improvement Program
CoRe Plan	Countywide Water Reuse Master Plan
CVP	Central Valley Project
Delta	Sacramento-San Joaquin Delta
DSOD	Department of Water Resources, Division of Safety of Dams
DWR	Department of Water Resources
ESA	Endangered Species Act
FAHCE	Fish and Aquatic Habitat Collaborative Effort
FERC	Federal Energy Regulatory Commission
FHRP	FAHCE fish habitat restoration plan
FOCP	FERC Order Compliance Project
FWS	Fish and Wildlife Service
FY	Fiscal Year
GP 5	Guiding Principal #5
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GW	Groundwater
GWMP	Groundwater Management Plan
HCP	Habitat Conservation Plan
IPR	Indirect Potable Reuse
Llagas Subbasin	Groundwater Subbasin as defined by DWR bulletin 118-2003 and as shown in map of Groundwater Subbasins, area south of Cochrane Road
MAP	Water Supply Master Plan's Monitoring and Assessment Program
M&I	Municipal and Industrial
NMFS	National Marine Fisheries Service
NPR	Non-Potable Recycled
North County	Northern Santa Clara County, north of Metcalf Road
P3	Public-Private Partnership
Reclamation	Bureau of Reclamation
RFC	Raftelis Financial Consultants, Inc.
RW	Recycled Water
RWF	Regional Wastewater Facility

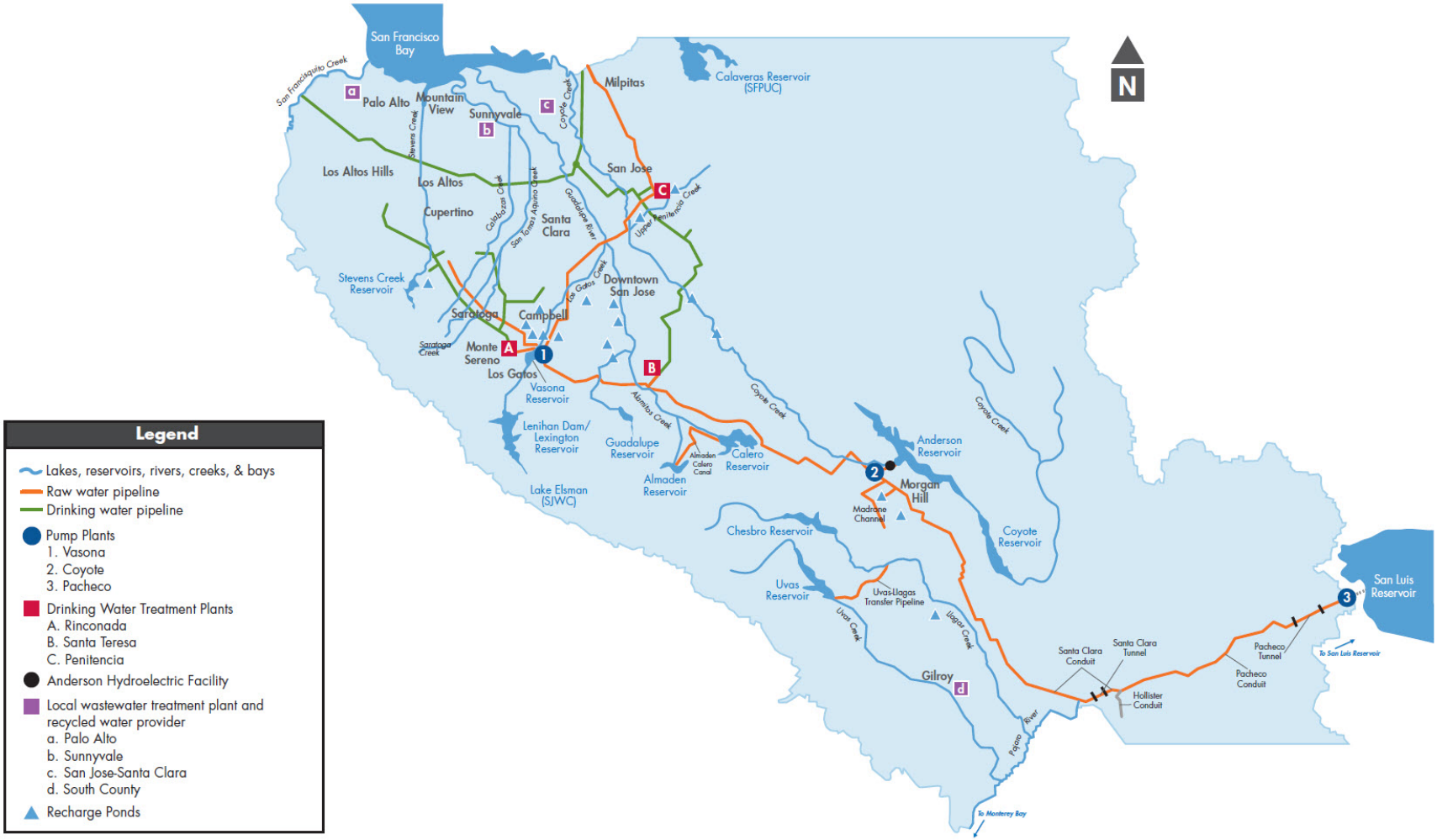
APPENDIX D

ACRONYMS … CONTINUED

RWS	Recycled Water System
Santa Clara Subbasin	Groundwater Subbasin as defined by DWR bulletin 118-2003 and as shown in map of Groundwater Subbasins, area north of Cochrane Road and includes Coyote Valley
SCRWA	South County Regional Wastewater Authority
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SBWR	South Bay Water Recycling
South County	Southern Santa Clara County, south of Metcalf Road
SW	Surface Water
SWP	State Water Project
SWRCB	State Water Resources Control Board
Three Creeks	Guadalupe River, Coyote Creek and Stevens Creek
TW	Treated Water
Valley Water	Santa Clara Valley Water District
WIFIA	Water Infrastructure Finance and Innovation Act
WSIP	Water Storage Investment Program

APPENDIX E – MAPS

VALLEY WATER SYSTEM MAP



APPENDIX E

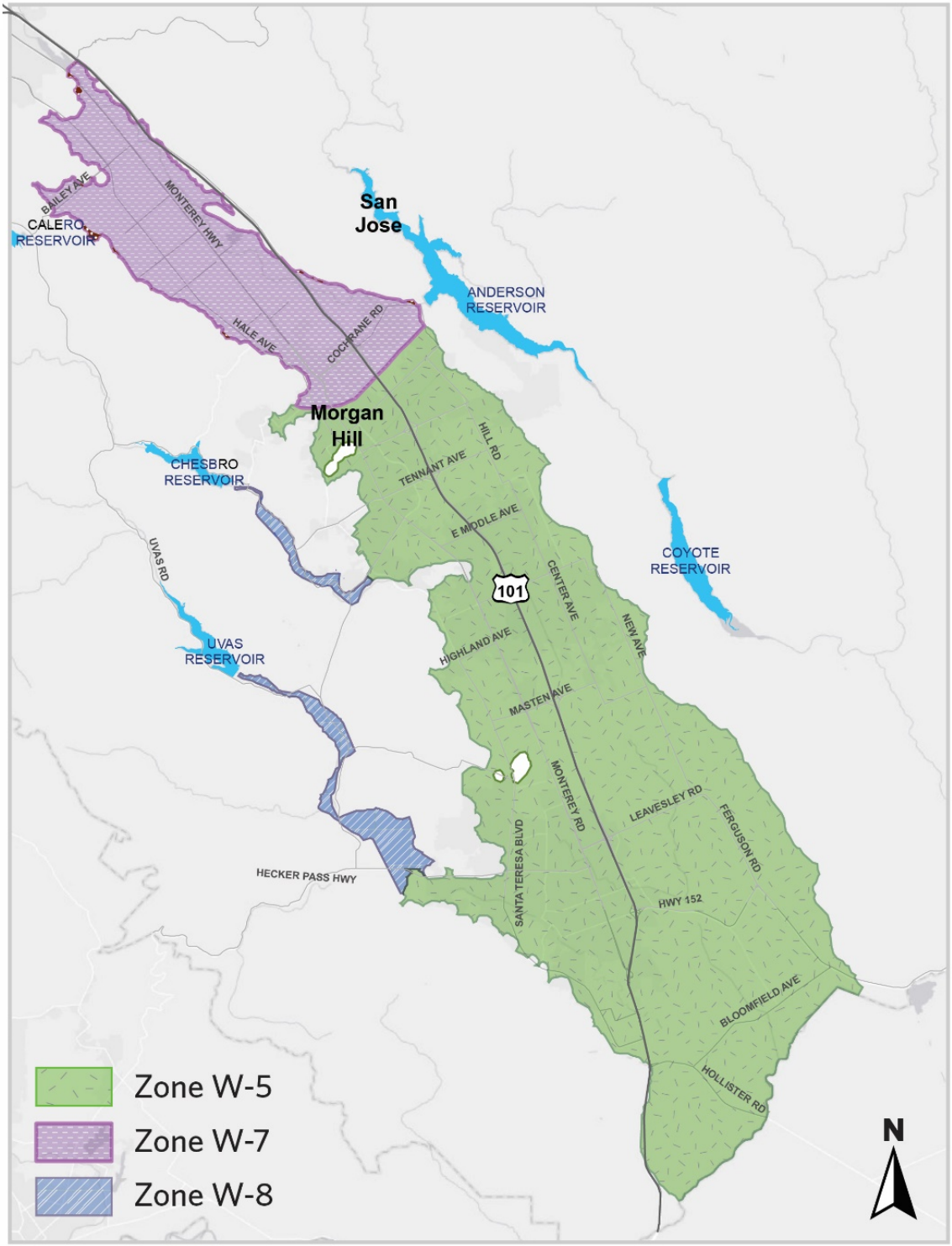
MAPS … CONTINUED

WATER UTILITY ZONE W-2 IN NORTH SANTA CLARA COUNTY

APPENDIX E

MAPS … CONTINUED

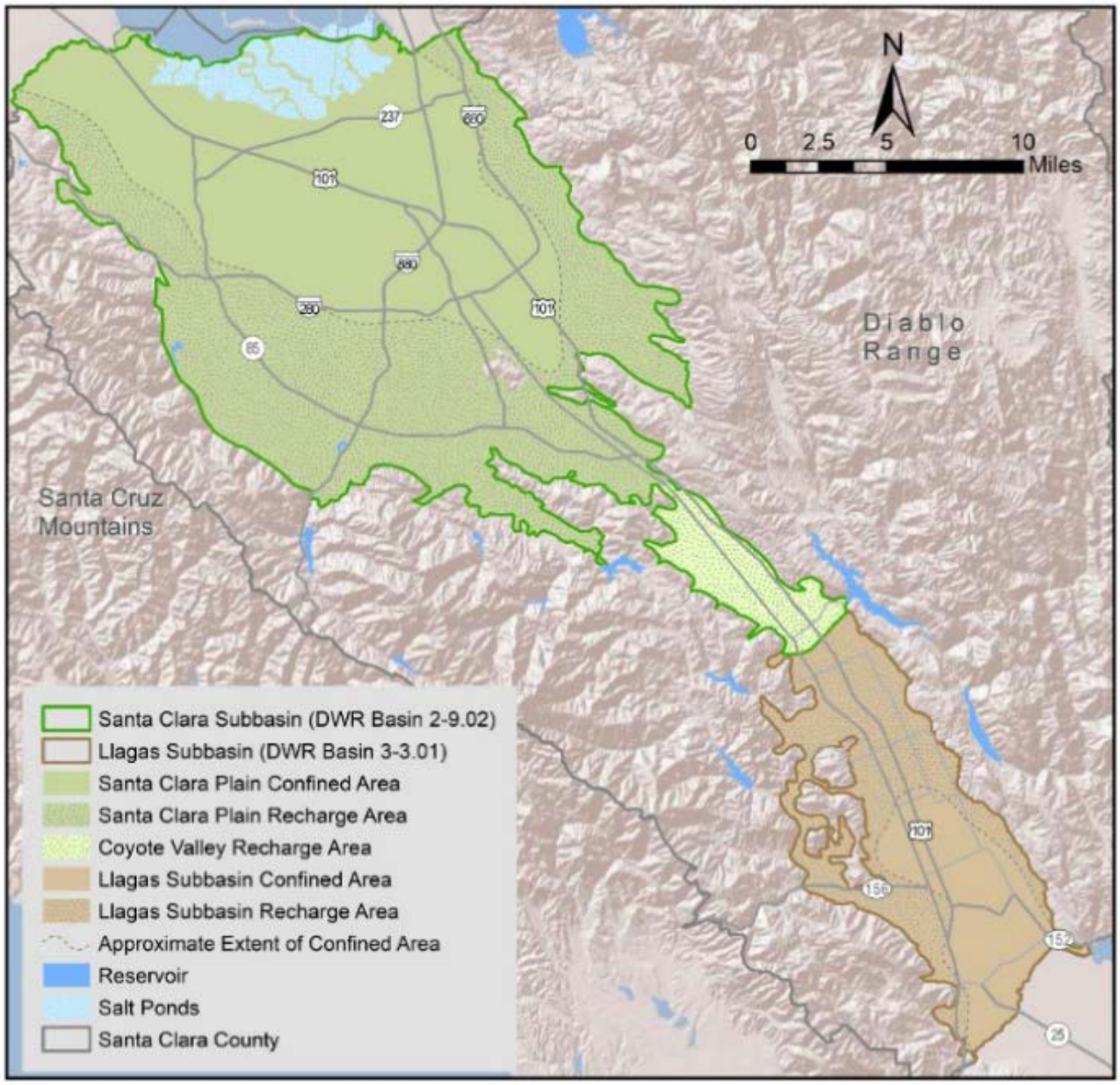
WATER UTILITY ZONES W-5, W-7, AND W-8 IN SOUTH SANTA CLARA COUNTY



APPENDIX E

MAPS … CONTINUED

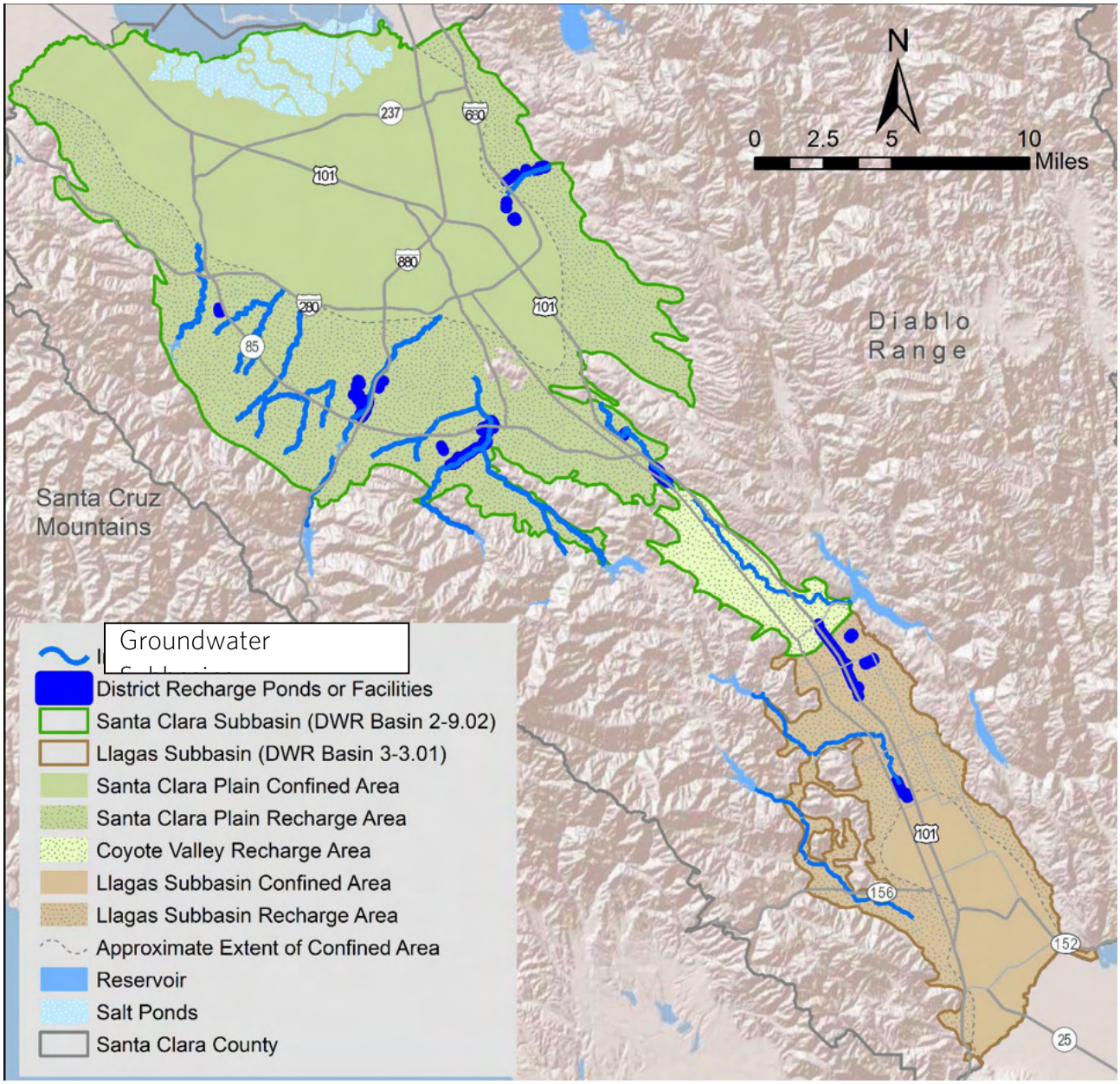
GROUNDWATER RECHARGE FACILITIES IN SANTA CLARA COUNTY



APPENDIX E

MAPS … CONTINUED

GROUNDWATER RECHARGE FACILITIES IN SANTA CLARA COUNTY



APPENDIX F – GROUNDWATER PRODUCTION AND MANAGED RECHARGE BY GROUNDWATER BENEFIT ZONE (NORTH)

North County Charge Zone					
Calendar Year	Charge Zone	Groundwater Production, acre-feet			Managed Recharge
		Groundwater Agricultural (AF)	Groundwater Non Agricultural (AF)	Groundwater Total (AF)	Recharge (AF)
Est. 2021	W2	900	79,100	80,000	35,200
Prelim. 2020	W2	800	79,500	80,300	44,500
2019	W2	324	56,840	57,164	43,100
2018	W2	486	62,985	63,471	66,100
2017	W2	312	69,295	69,607	66,200
2016	W2	398	55,318	55,716	93,100
2015	W2	556	65,340	65,896	28,300
2014	W2	885	113,726	114,611	11,200
2013	W2	502	94,774	95,276	53,900
2012	W2	425	75,930	76,355	55,940
2011	W2	279	71,008	71,287	54,820
2010	W2	437	84,185	84,622	58,540
2009	W2	605	97,233	97,838	63,000
2008	W2	1,058	106,592	107,650	51,290
2007	W2	1,032	108,771	109,803	58,000
2006	W2	387	82,380	82,767	65,770
2005	W2	834	86,615	87,449	69,200
2004	W2	552	105,114	105,666	66,700
2003	W2	413	96,253	96,666	74,200
2002	W2	617	104,129	104,746	71,660

Values presented are based on best available information and are refined as additional data becomes available. The Board adopted new groundwater benefit zones that went into effect July 1, 2020. Groundwater production prior to 2020 reflects usage within the zones in effect at the time while 2020 production reflects the newly adopted zones. Groundwater pumping data from wells located outside the current charge zones are not included in the CY 2020 pumping estimate. Managed recharge reflects the volume applied on the land surface; subsurface flow is not considered in the above table.

APPENDIX F – GROUNDWATER PRODUCTION AND MANAGED RECHARGE BY GROUNDWATER BENEFIT ZONE (SOUTH)

South County Charge Zones					
Calendar Year	Charge Zone	Groundwater Production, acre-feet			Managed Recharge
		Groundwater Agricultural (AF)	Groundwater Non Agricultural (AF)	Groundwater Total (AF)	Recharge (AF)
Est. 2021	W5	23,300	18,000	41,300	11,100
	W7	3,300	9,700	13,000	14,300
	W8	500	500	1,000	3,000
	Subtotal	***27,100***	***28,200***	***55,300***	***28,400***
Prelim. 2020	W5	21,800	18,900	40,700	12,600
	W7	2,800	8,400	11,200	19,100
	W8	500	400	900	5,400
	Subtotal	***25,100***	***27,700***	***52,800***	***37,100***
2019	W5	24,481	26,654	51,135	41,700
2018	W5	26,610	28,461	55,071	34,600
2017	W5	25,502	28,620	54,122	34,400
2016	W5	25,321	26,293	51,614	46,700
2015	W5	24,697	24,941	49,638	26,100
2014	W5	25,906	28,578	54,484	15,000
2013	W5	26,359	32,948	59,307	37,100
2012	W5	24,934	30,892	55,825	40,790
2011	W5	22,444	29,827	52,271	39,360
2010	W5	22,037	30,249	52,286	42,210
2009	W5	24,853	32,441	57,293	39,100
2008	W5	28,341	33,478	61,819	36,100
2007	W5	27,697	31,332	59,029	33,410
2006	W5	24,492	30,336	54,828	30,440
2005	W5	25,149	25,238	50,387	32,500
2004	W5	27,547	25,563	53,110	31,000
2003	W5	25,981	24,182	50,163	35,000
2002	W5	27,155	25,534	52,689	35,300

Valley Water

Clean Water • Healthy Environment • Flood Protection

Santa Clara Valley Water District
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Phone: (408) 265-2600 Fax: (408) 266-0271
www.valleywater.org

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